

CHAPTER

2

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Alternatives

This chapter first describes the alternatives the DEIS analyzed. It then describes other alternatives considered but eliminated from further consideration and the basis for eliminating them. The end of the chapter identifies permits and approvals needed.

2.1 Description of Alternatives

For further information regarding the alternative transportation strategies considered, see *Alternative Transportation Strategies, Highway 62 Corridor Project* (April 20, 2011). This report is available from the ODOT contact person identified on page i of this EIS.

The DEIS analyzed three alternatives: the No Build Alternative, the Split Diamond Interchange at I-5 (SD) Alternative, and the Bypass with a Directional Interchange at OR 62 (DI) Alternative. Also included is the Jobs and Transportation Act (JTA) Phase, an initial phase of the build alternatives. This section describes those alternatives.

2.1.1 No Build Alternative

The No Build Alternative would result in no improvements or modifications to existing OR 62. Highway facilities on OR 62 would remain as they are today. Reconstruction of the North Medford Interchange, the interchange between I-5 and OR 62, was completed in 2005. Figure 2-1 is a diagram of the interchange as it now exists. There would be no additional changes to the interchange under the No Build Alternative. Between I-5 in Medford and Dutton Road in White City, OR 62 varies in width and lane configuration. For much of its length, OR 62 is approximately 80 feet wide, consisting of four 12-foot travel lanes (two in each direction) with a 10-foot center turn lane and two 10-foot shoulders. Figure 2-2 is a typical cross-section of existing OR 62. Near the I-5 interchange and intersections with high-volume local streets, OR 62 is wider and includes dedicated turn lanes to accommodate traffic volumes. Businesses on OR 62 have driveway access to the highway, although some are restricted to right in/right out movements.

Improvements to other roadways in the project area would be built under the No Build Alternative. These future projects are identified in the fiscally constrained portion of the Rogue Valley Metropolitan Planning Organization (MPO) 2009-2034 Regional Transportation Plan (RTP) and listed in Table 2-1. Figure 2-3 shows the location of the projects. The Rogue Valley MPO is scheduled to adopt a new RTP in April 2013. There are no additional funded transportation projects within the vicinity of this project in any of the jurisdictions' capital improvement programs.

Figure 2-1

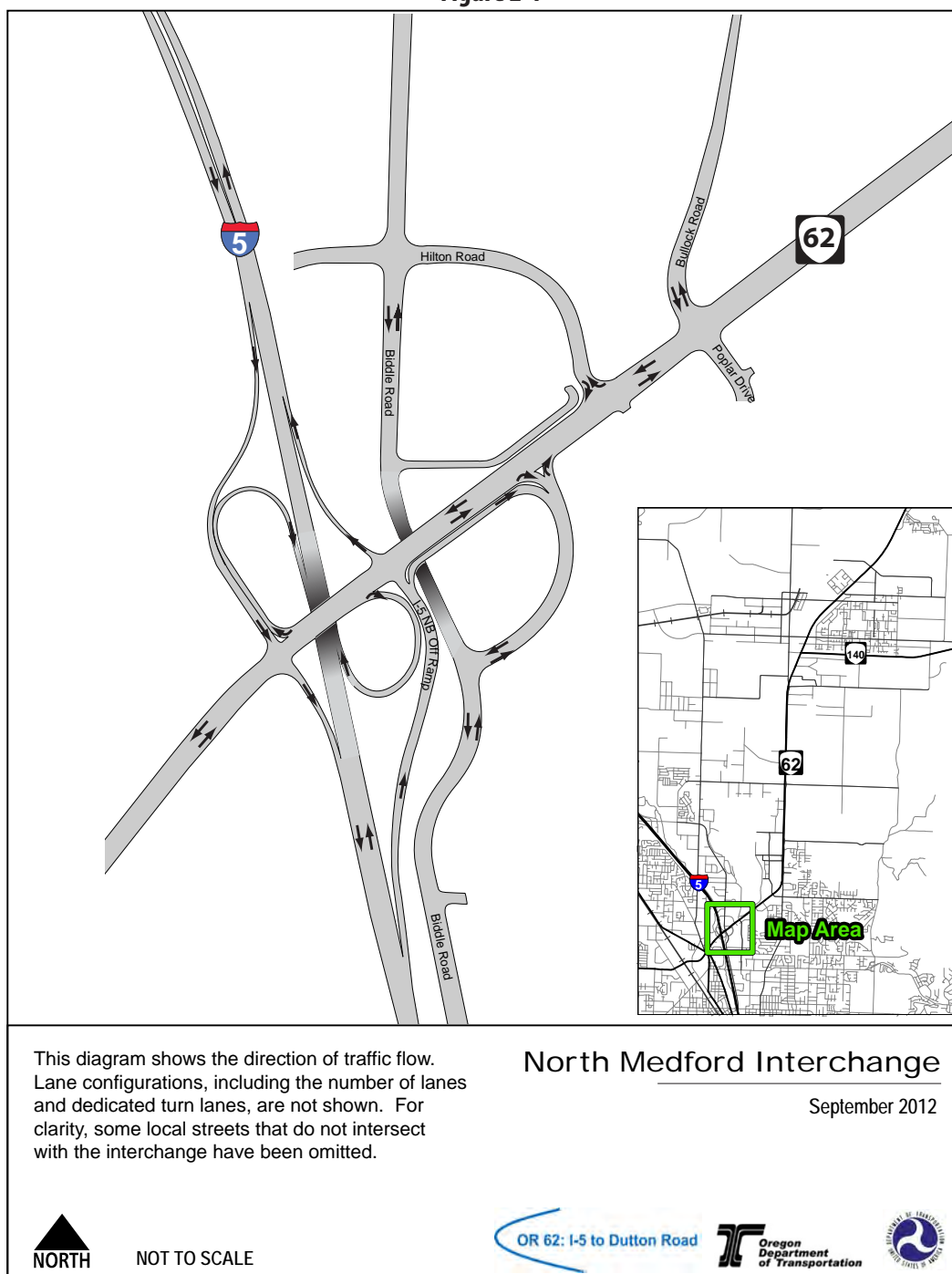
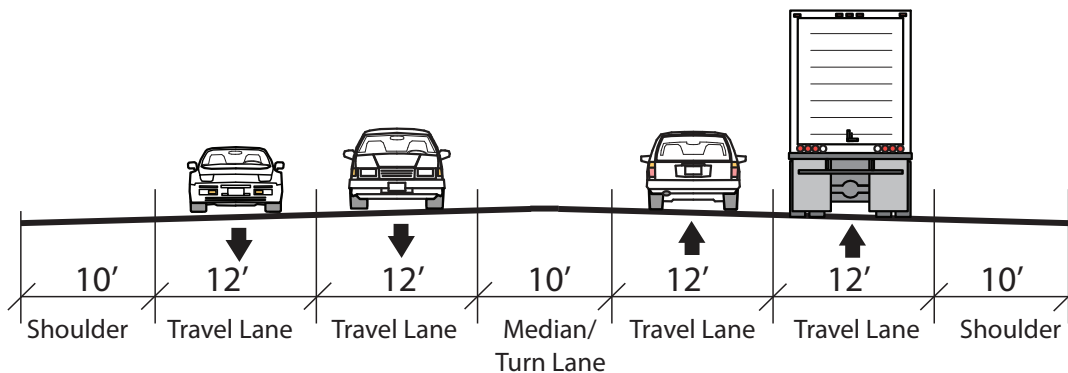


Figure 2-2 Typical Cross Section of Existing OR 62



The Rogue Valley MPO has added to the RTP two projects and expanded one project, as shown in Table 2-1. One added project is the realignment of Springbrook Road south of its intersection with Delta Waters Road. It is shown on Figure 2-3 FEIS as project 5007. The other added project is the addition of left-turn lanes from OR 140 westbound to OR 62 southbound. It is shown on Figure 2-3 FEIS as project 940. The expanded project is number 812, as shown in Figure 2-3 FEIS and Table 2-1. It is now called "Table Rock Road, Wilson Road to Elmhurst Street" and is described as widening to add a center turn lane, bike lanes, and sidewalks and aligning the Gregory Road intersection.

Table 2-1 Related Projects in the Rogue Valley MPO 2009-2034

Project	Location	Description	Timing*
Central Point			
201	New Haven Road - Hamrick Road intersection	Add signal for pedestrian crossing	short
219	Table Rock Road and Vilas Road intersection	Widen to increase capacity	long
Medford			
502	Various locations in Medford	Construct sidewalks, storm drains, curbs	short
507	Columbus Avenue, McAndrews Road to Sage Road	Extend Columbus Avenue to Sage Road, with center turn lane, bike lanes, sidewalks	short
5007	Springbrook-Delta Waters Realignment	Realign intersection; add center-turn lane, bicycle lanes, sidewalks	short
558	Coker Butte Road, OR 62 to East of Crater Lake Avenue	Move Coker Butte Road north, re-align Crater Lake Avenue, add sign	medium
567	Owens Drive, Crater Lake Avenue to Foothill Road	Construct new three lane street with bike lanes and sidewalks	long
568	Lear Way, Coker Butte Road to Vilas Road	Construct new two lane street with bike lanes and sidewalks	long
569	Coker Butte Road, Lear Way to Haul Road	Construct new five lane street with bike lanes and sidewalks	long
Jackson County			
805	Avenue G - Kirtland Road, Pacific Avenue to Table Rock Road	Upgrade to Urban Industrial Collector: Straighten 90° curves	short
812	Table Rock Road: Wilson Road to Gregory Road Table Rock Road: Wilson Road to Elmhurst Street	Widen to 5 lanes: curb, gutter, sidewalk, bike lanes Widen to add center turn lane, bicycle lanes, sidewalks; align Gregory Road intersection	short
822	Table Rock Road at Wilson Road	New traffic signal	medium
809	Foothill Road: Corey Road to Atlantic Street	New two lane rural major collector and signal	medium
821	Table Rock Road: I-5 Crossing to Biddle Road	Widen to 3 and 5 lanes: curb, gutter, sidewalk, and bike lanes	long
ODOT			
534, 558	OR 62: Owens Drive and Coker Butte Road	New 5-lane street from OR 62 to Springbrook Road, Realign Crater Lake Ave and Coker Butte Road, Signalization	short
904	OR 140 Freight Extension	Lane and shoulder widening for freight movements	short
940	OR 62 & OR 140 Intersection Improvements	Relocate signal, modify lane configuration	short
938	OR 62: Access Management	Major approach relocation west of I-5	medium

*Timing: Short = 2009-2013; Medium = 2014-2019; Long = 2020-2034.

Source: Rogue Valley Metropolitan Planning Organization, Regional Transportation Plan, 2009-2034, Table 5.5.2, as amended September 7, 2010. Additions are from amendments adopted October 23, 2012.

Figure 2-3

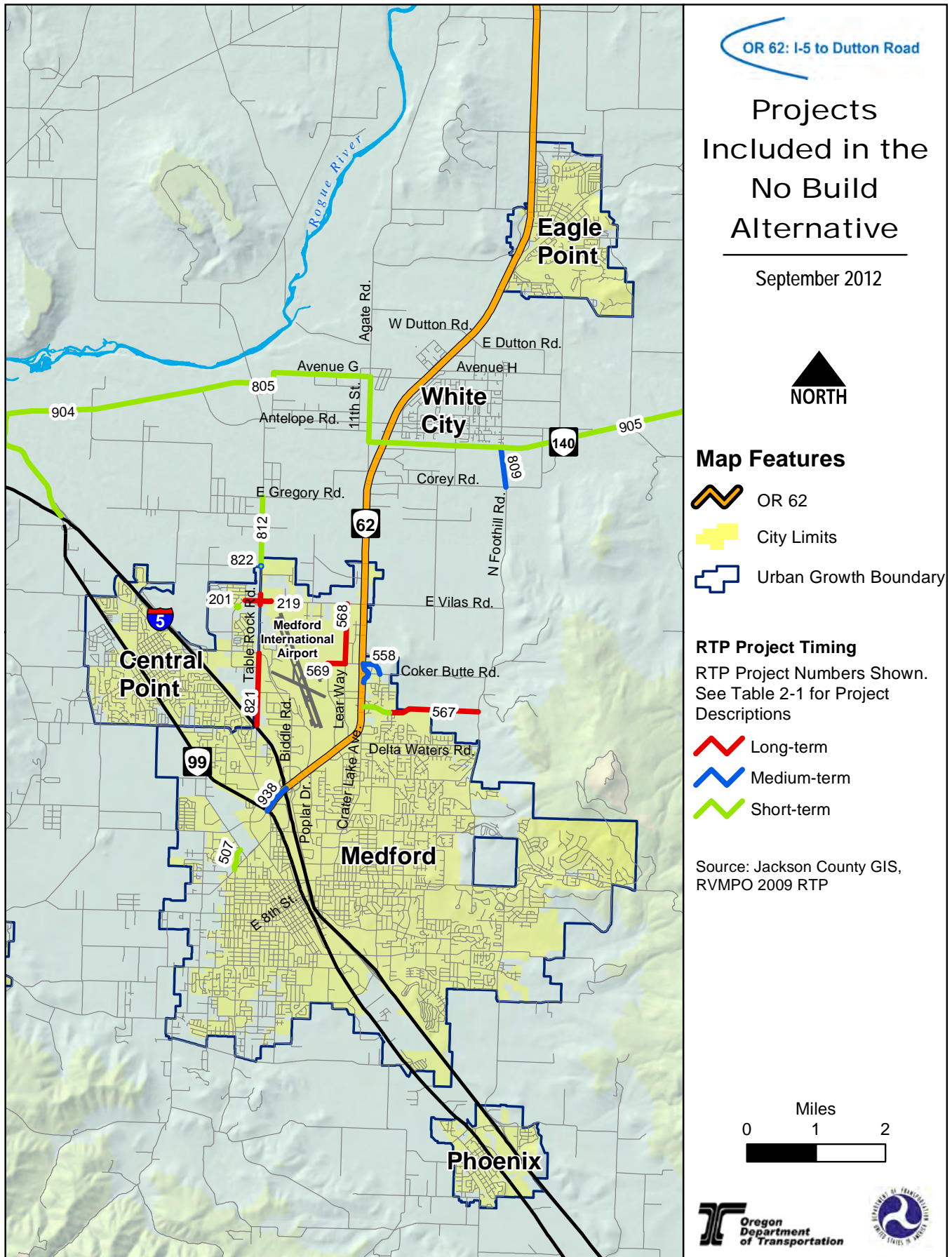
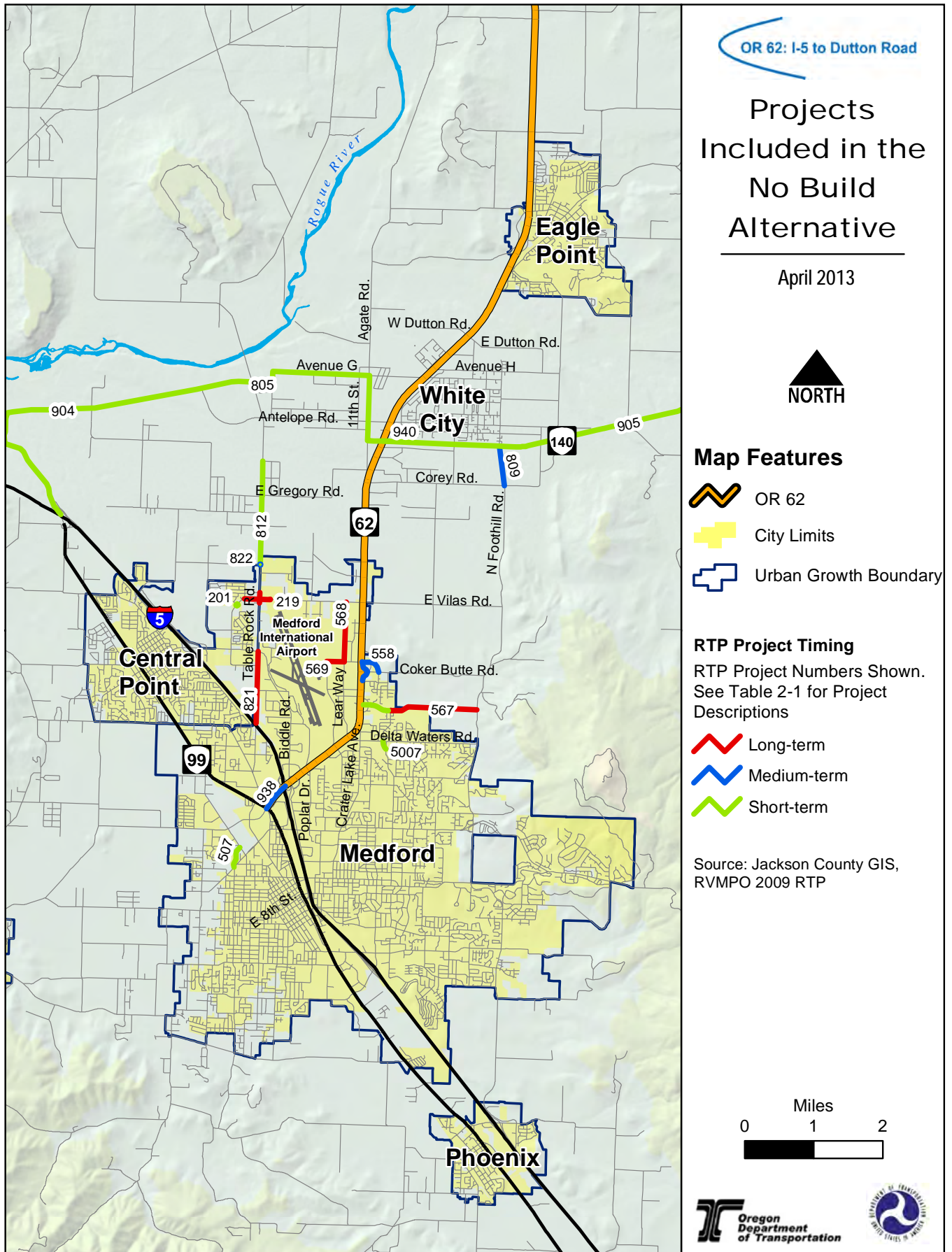


Figure 2-3 FEIS



2.1.2 Build Alternatives

There are two build alternatives. Under both alternatives, there are three design options: A, B, and C. The design options are identical regardless of alternative. In May 2011, the CAC and PDT recommended that ODOT select the SD Alternative with Design Option C. Following that meeting, ODOT identified the SD Alternative with Design Option C as the recommended alternative. The identification of the recommended alternative, as well as the process for identifying the preferred alternative, is described in greater detail in Section 2.5.

The designs for the two build alternatives are detailed in the map set included in Figure 2-4. The two build alternatives are different at the southern terminus (the I-5 interchange area). North of Delta Waters Road to Commerce Drive, the build alternatives follow a similar, but not identical, alignment. North of Commerce Drive, the build alternatives are identical. Between Vilas Road and Agate Road, there are three design options available for each build alternative.

The projected construction and right-of-way costs for each of the build alternatives (regardless of design option) are:

- SD Alternative, \$370 to \$440 million
- DI Alternative, \$330 to \$400 million
- JTA Phase, \$120 to \$150 million

The costs of the SD and DI Alternatives are in 2023 dollars, because that is about when it is projected a build alternative would be constructed. The cost of the JTA phase is in 2014 dollars, because the JTA phase is projected to be mid-way through construction in 2014. The costs of the build alternatives assume that the JTA phase has already been constructed. These costs do not include other construction-related costs, such as final design and construction services.

The projected construction and right-of-way cost of the Preferred Alternative is approximately \$440 million in 2023 dollars. The projected construction and right-of-way cost of the JTA phase is approximately \$118 million in 2014 dollars.

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Figure 2-4: SD and DI Alternative Detailed Map Set Index

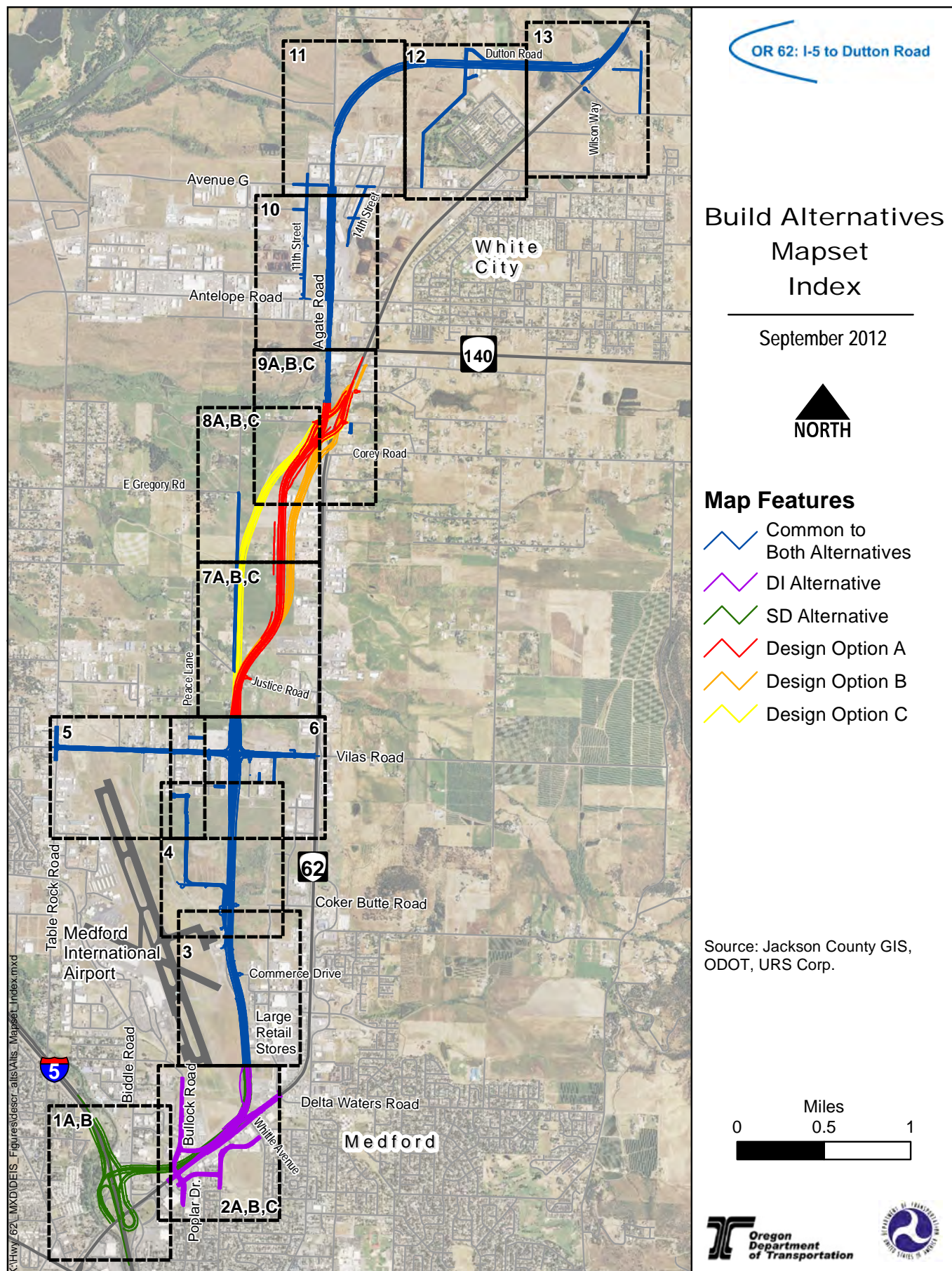


Figure 2-4 FEIS: Preferred Alternative Detailed Map Set Index

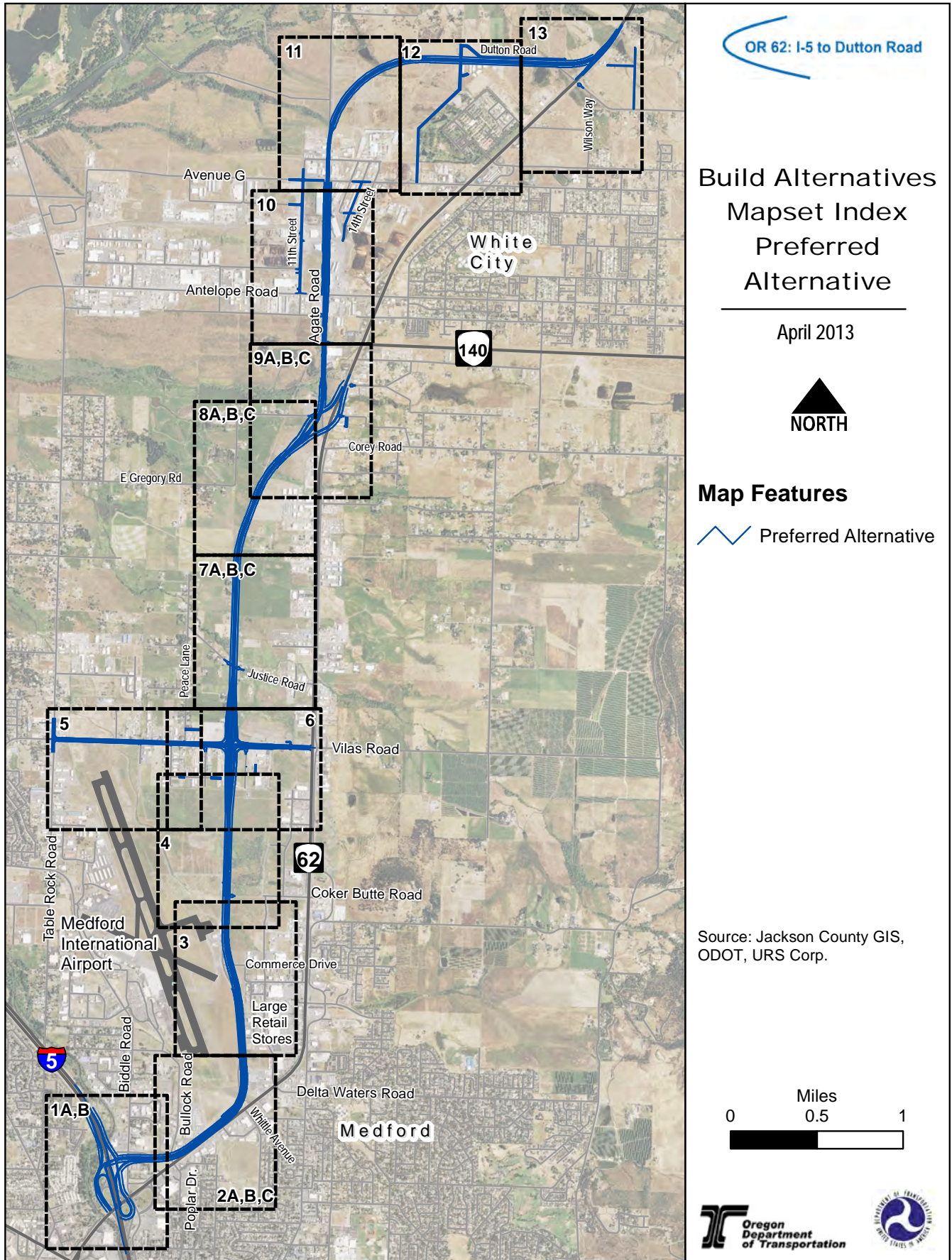


Figure 2-4: Sheet 1A of 13

OR 62 Build Alternatives - Design Mapset

1A of 13 - SD Alternative

July 2012

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Feet

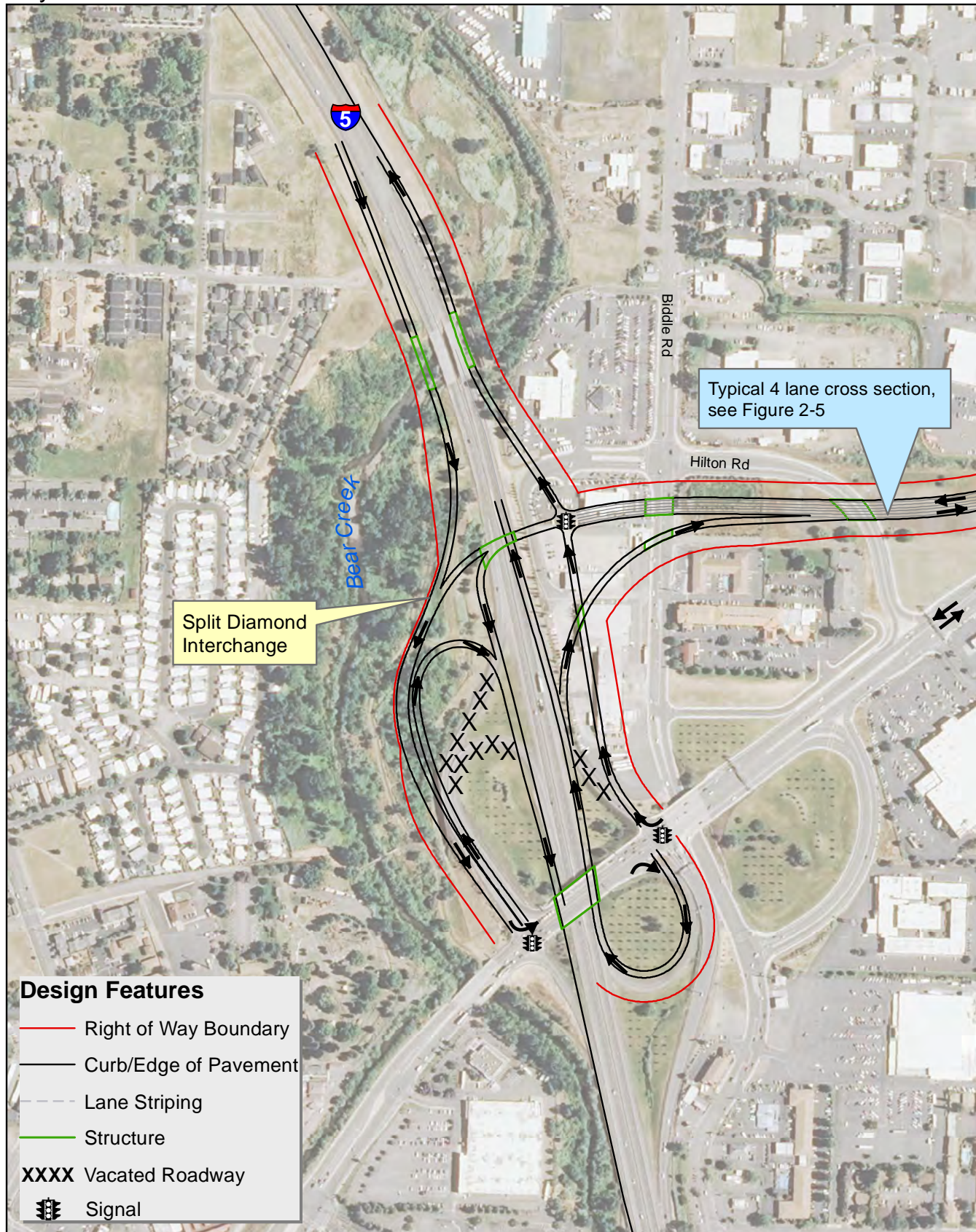


Figure 2-4: Sheet 1B of 13

OR 62 Build Alternatives - Design Mapset

1B of 13 - SD Alternative - Split Diamond Interchange Detail

July 2012

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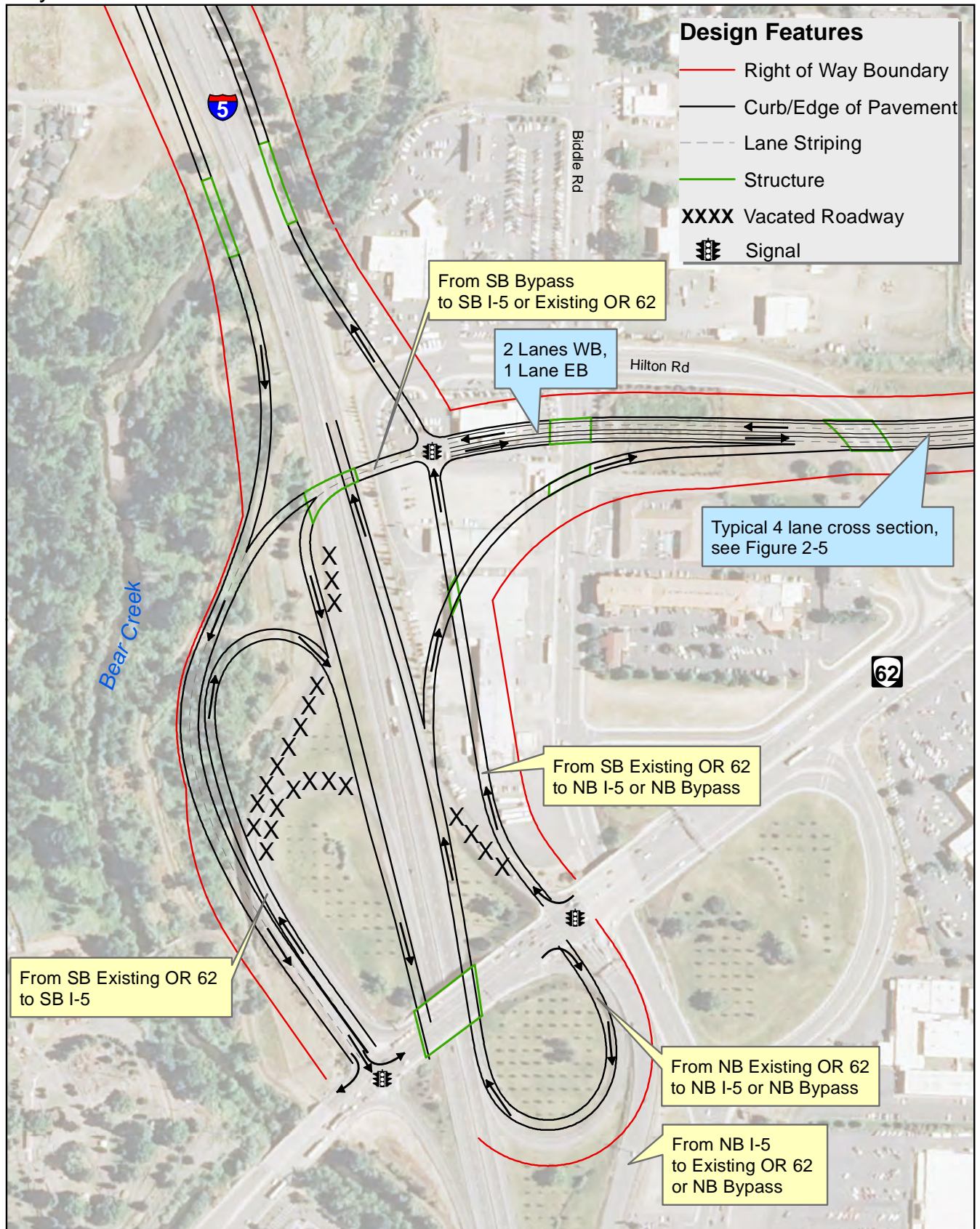


Figure 2-4: Sheet 2A of 13

OR 62 Build Alternatives - Design Mapset

2A of 13 - SD Alternative

July 2012

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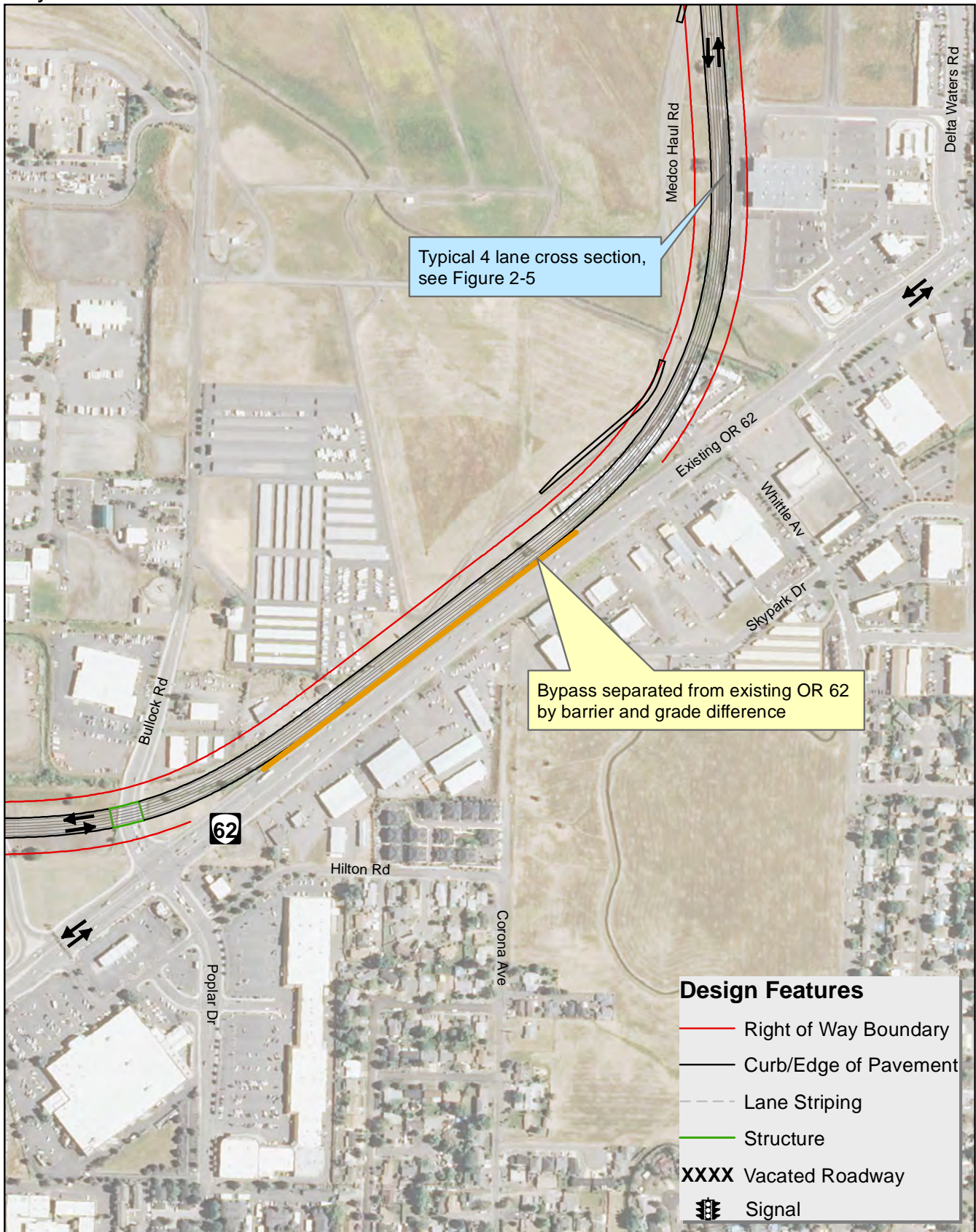


Figure 2-4: Sheet 2A FEIS of 13

OR 62 Preferred Alternative - Design Mapset
2A FEIS of 13 - Preferred Alternative
April 2013

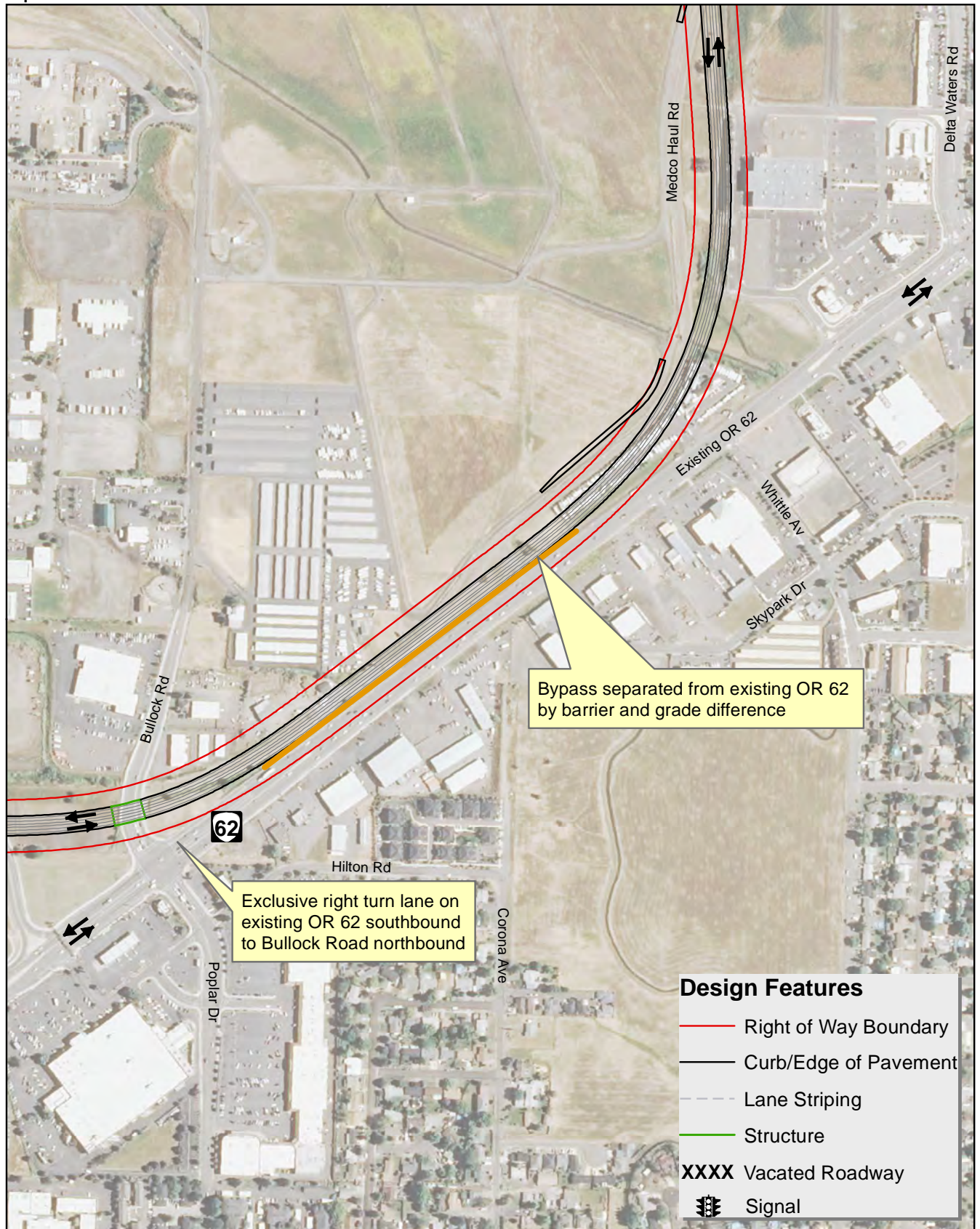
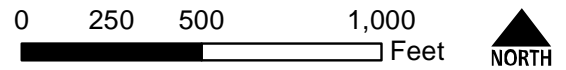


Figure 2-4: Sheet 2B of 13

OR 62 Build Alternatives - Design Mapset

2B of 13 - DI Alternative

July 2012

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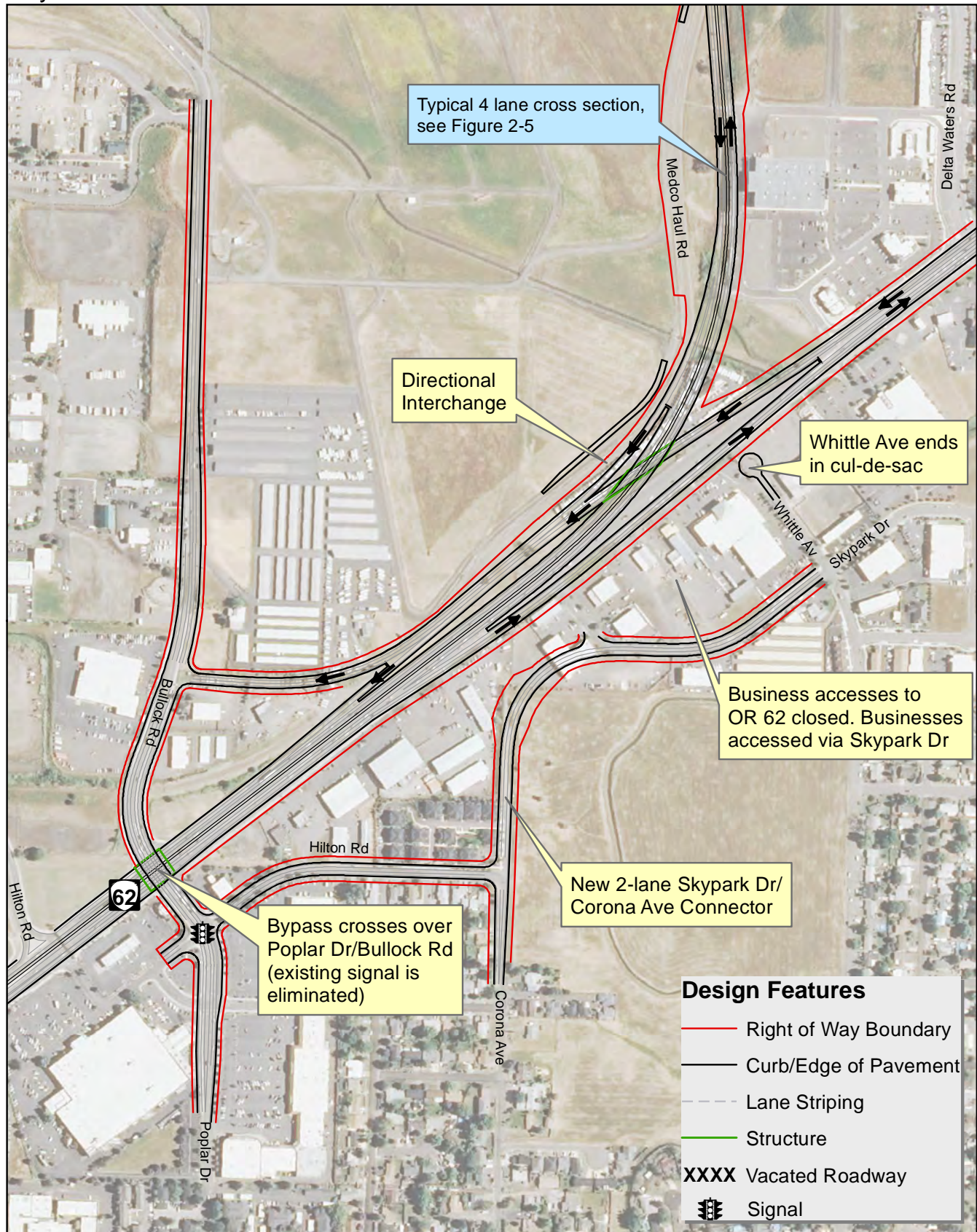


Figure 2-4: Sheet 2C of 13

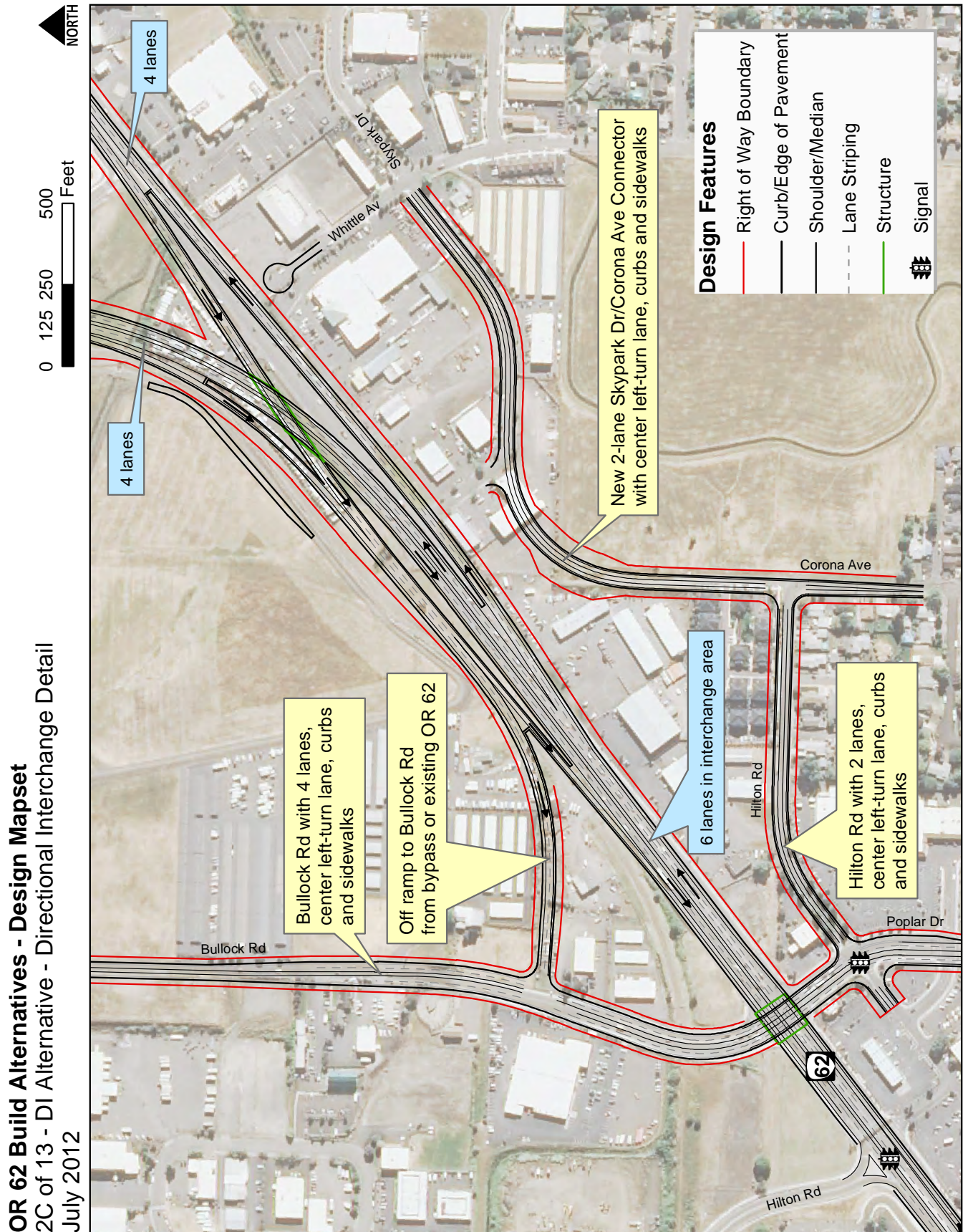


Figure 2-4: Sheet 3 of 13

OR 62 Build Alternatives - Design Mapset
 3 of 13 - Common to Both Build Alternatives
 July 2012

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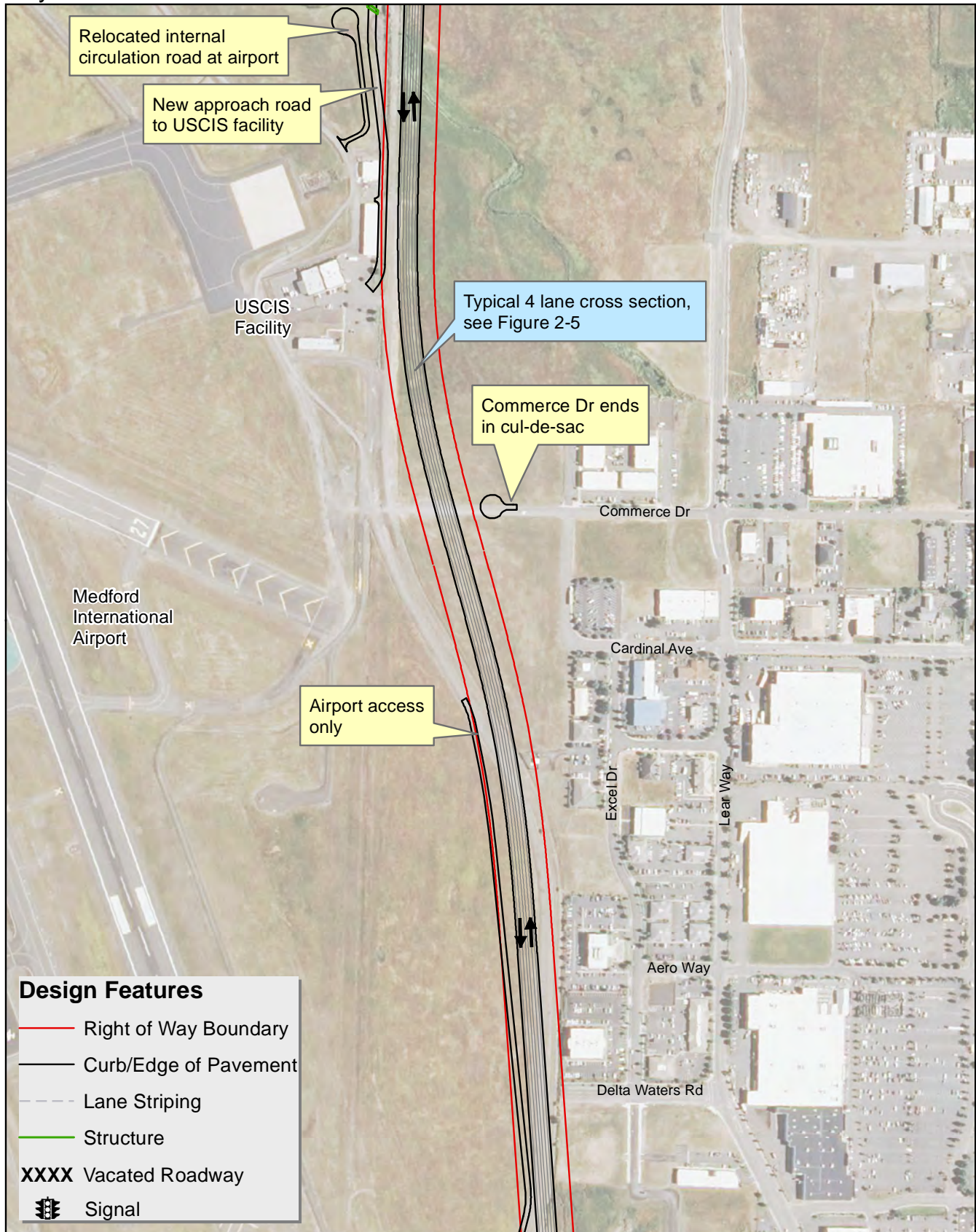


Figure 2-4: Sheet 3 FEIS of 13

OR 62 Preferred Alternative - Design Mapset
3 FEIS of 13 - Preferred Alternative
April 2013

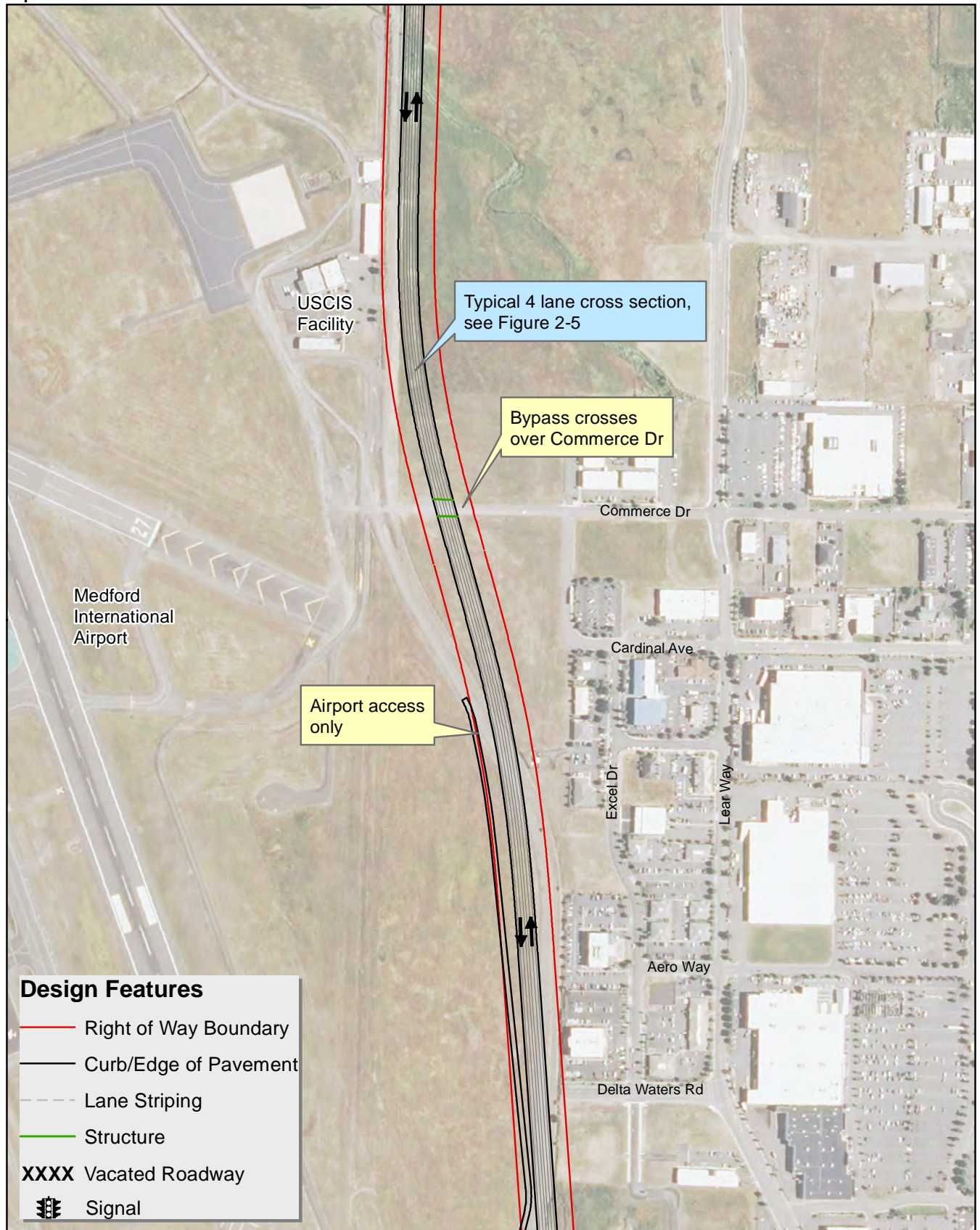
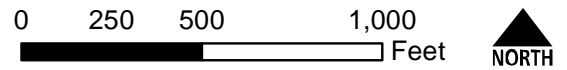


Figure 2-4: Sheet 4 of 13

OR 62 Build Alternatives - Design Mapset
4 of 13 - Common to Both Build Alternatives
July 2012

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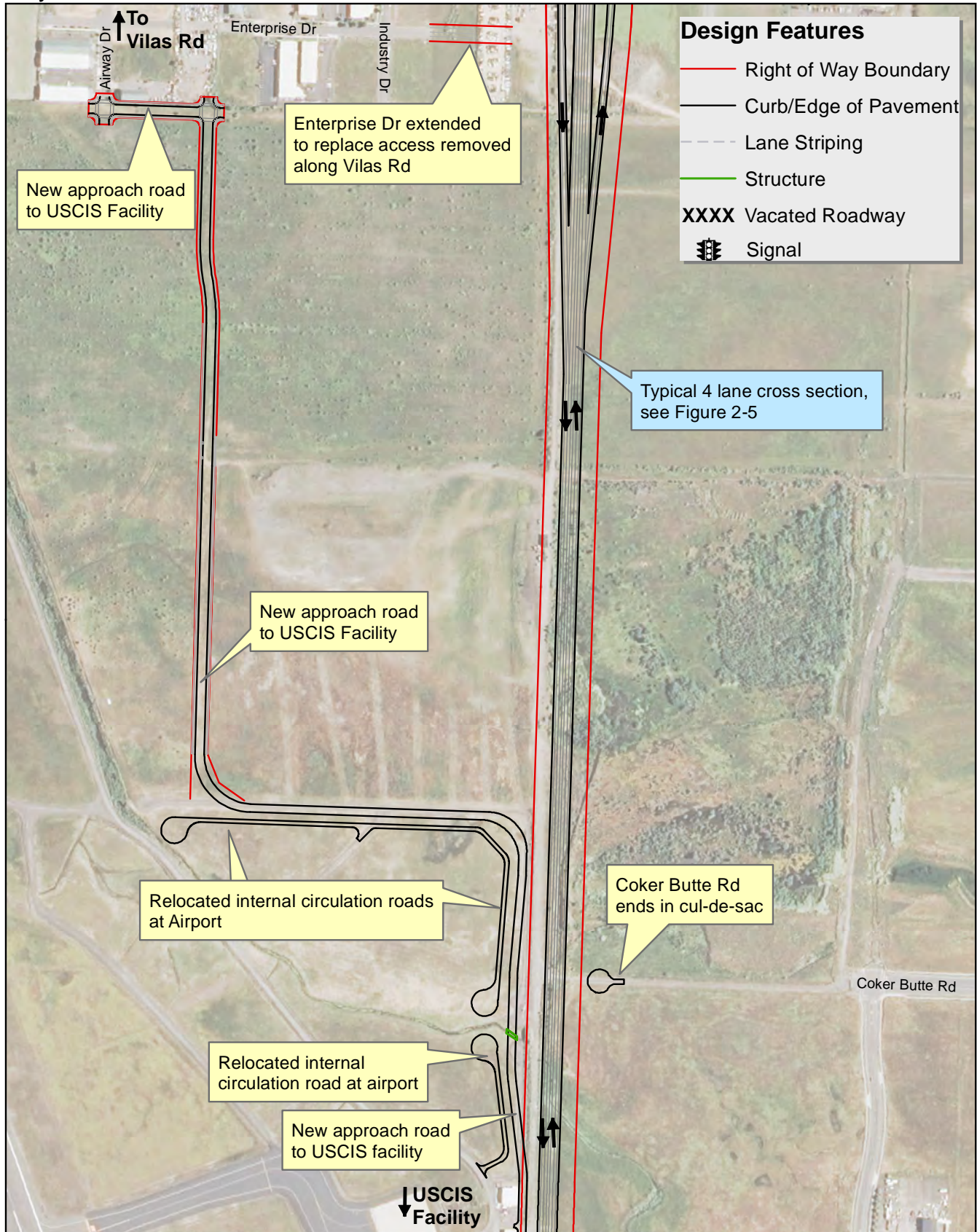


Figure 2-4: Sheet 4 FEIS of 13

OR 62 Preferred Alternative - Design Mapset
4 FEIS of 13 - Preferred Alternative
April 2013

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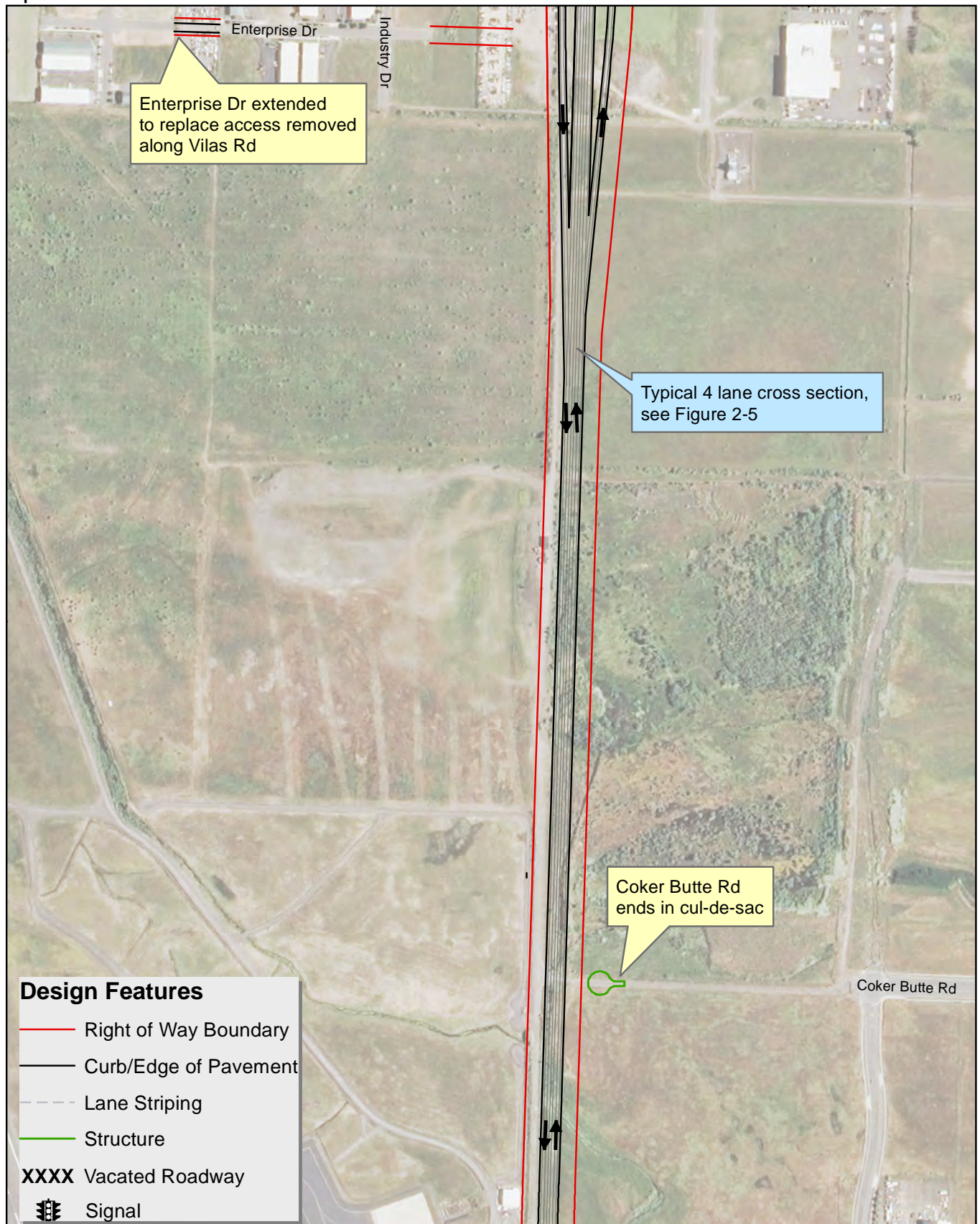


Figure 2-4: Sheet 5 of 13

OR 62 Build Alternatives - Design Mapset
5 of 13 - Common to Both Build Alternatives
July 2012

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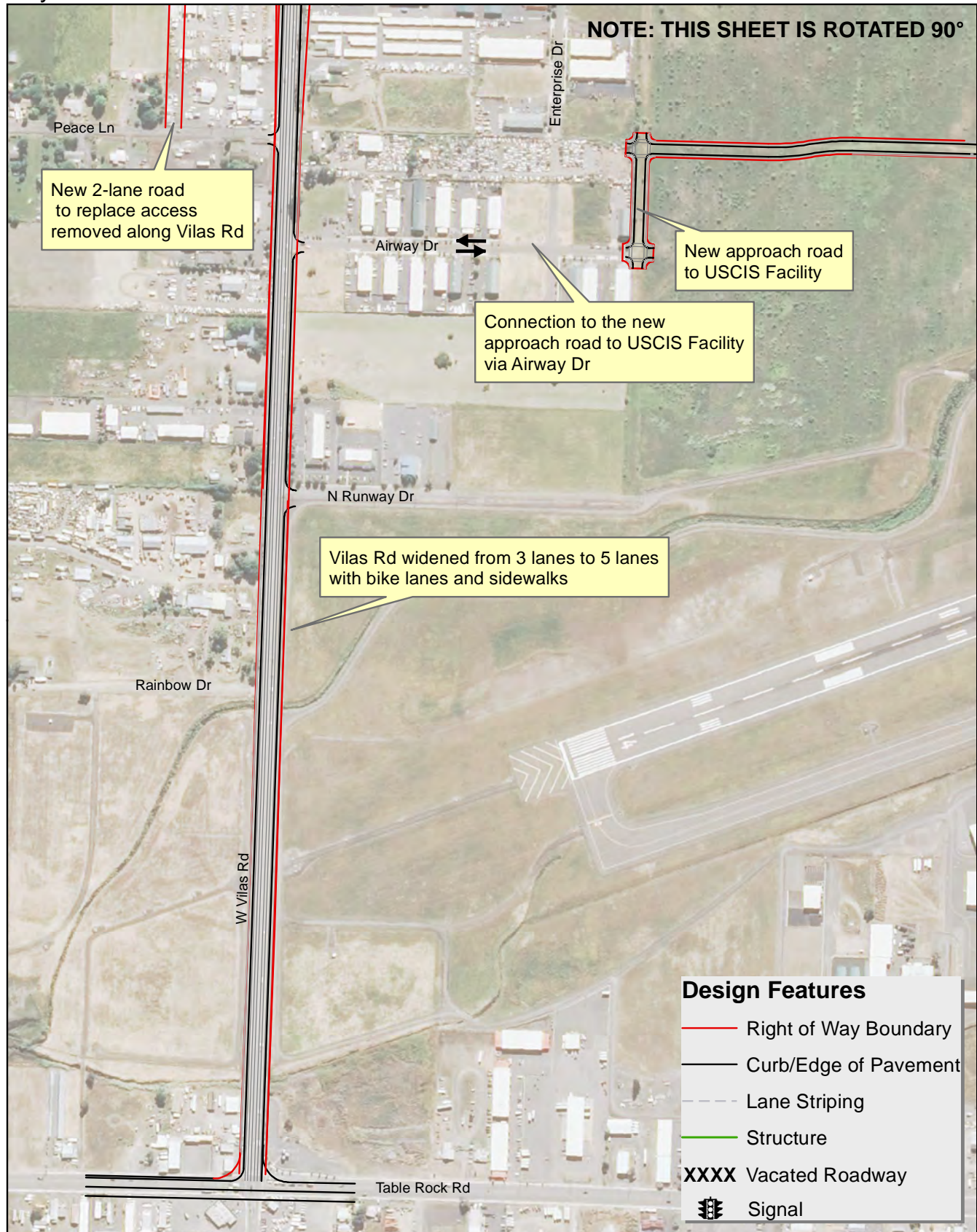


Figure 2-4: Sheet 5 FEIS of 13

OR 62 Preferred Alternative - Design Mapset
5 FEIS of 13 - Preferred Alternative
April 2013

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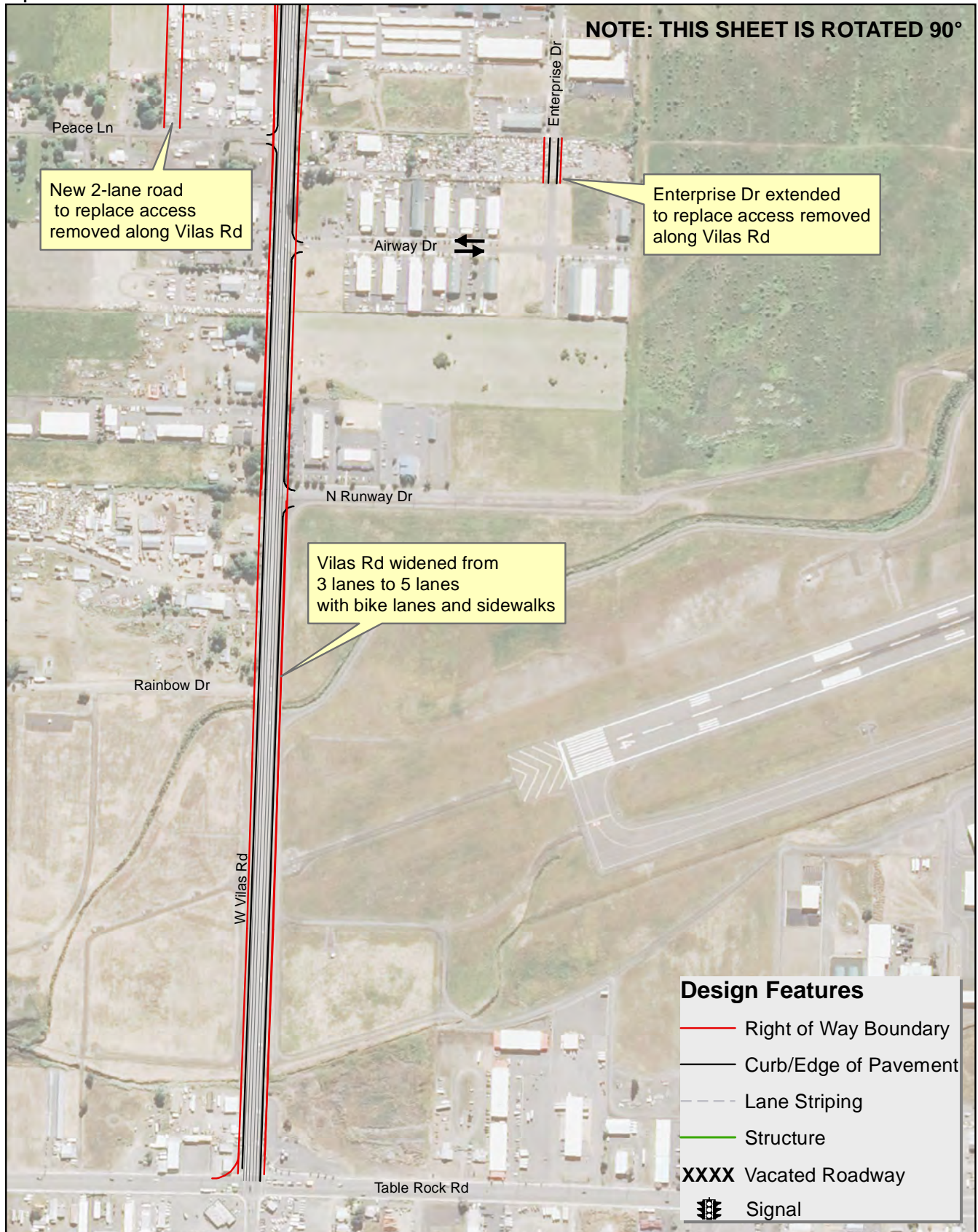


Figure 2-4: Sheet 6 of 13

OR 62 Build Alternatives - Design Mapset
 6 of 13 - Common to Both Build Alternatives
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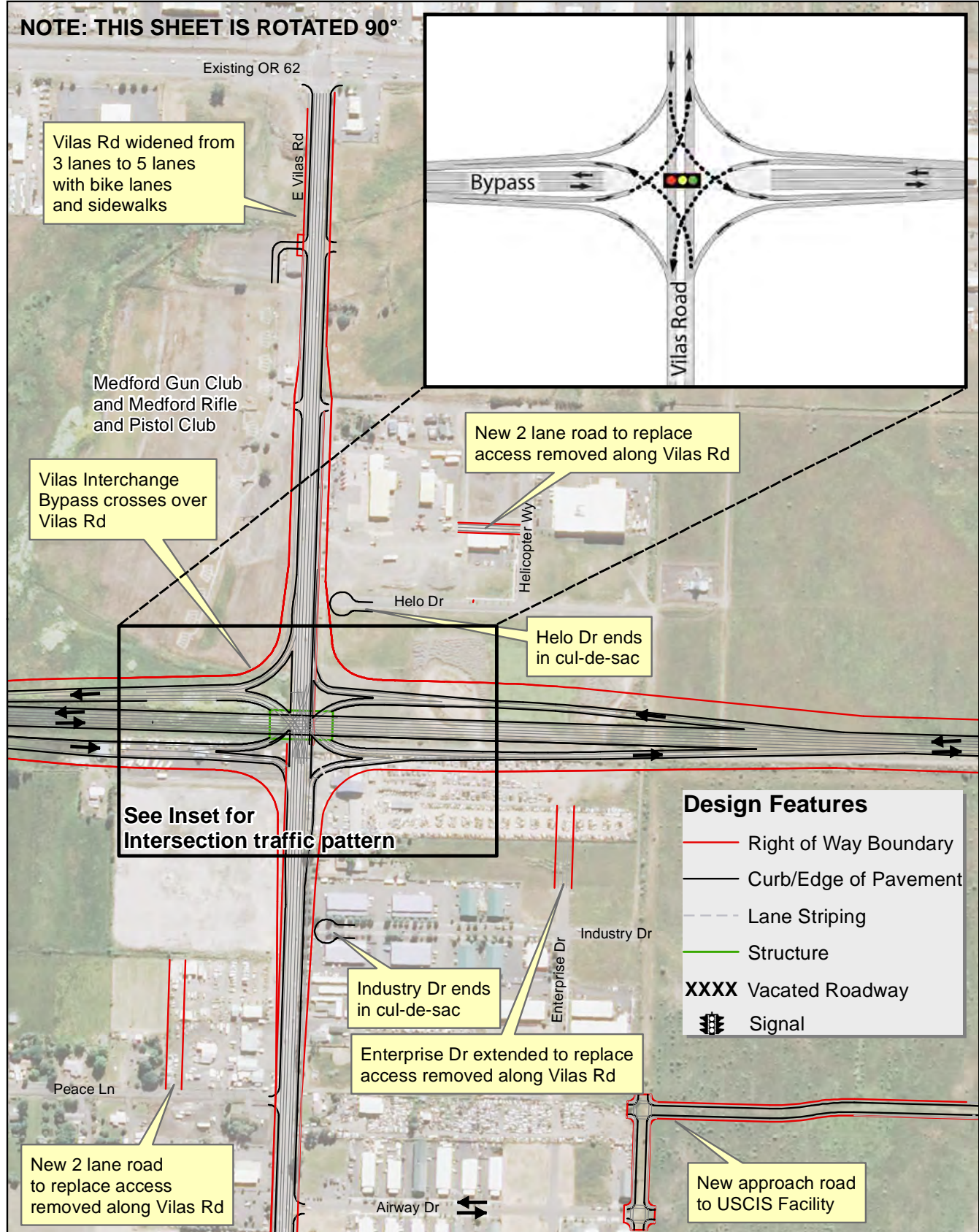


Figure 2-4: Sheet 6 FEIS of 13

OR 62 Preferred Alternative - Design Mapset
6 FEIS of 13 - Preferred Alternative
April 2013

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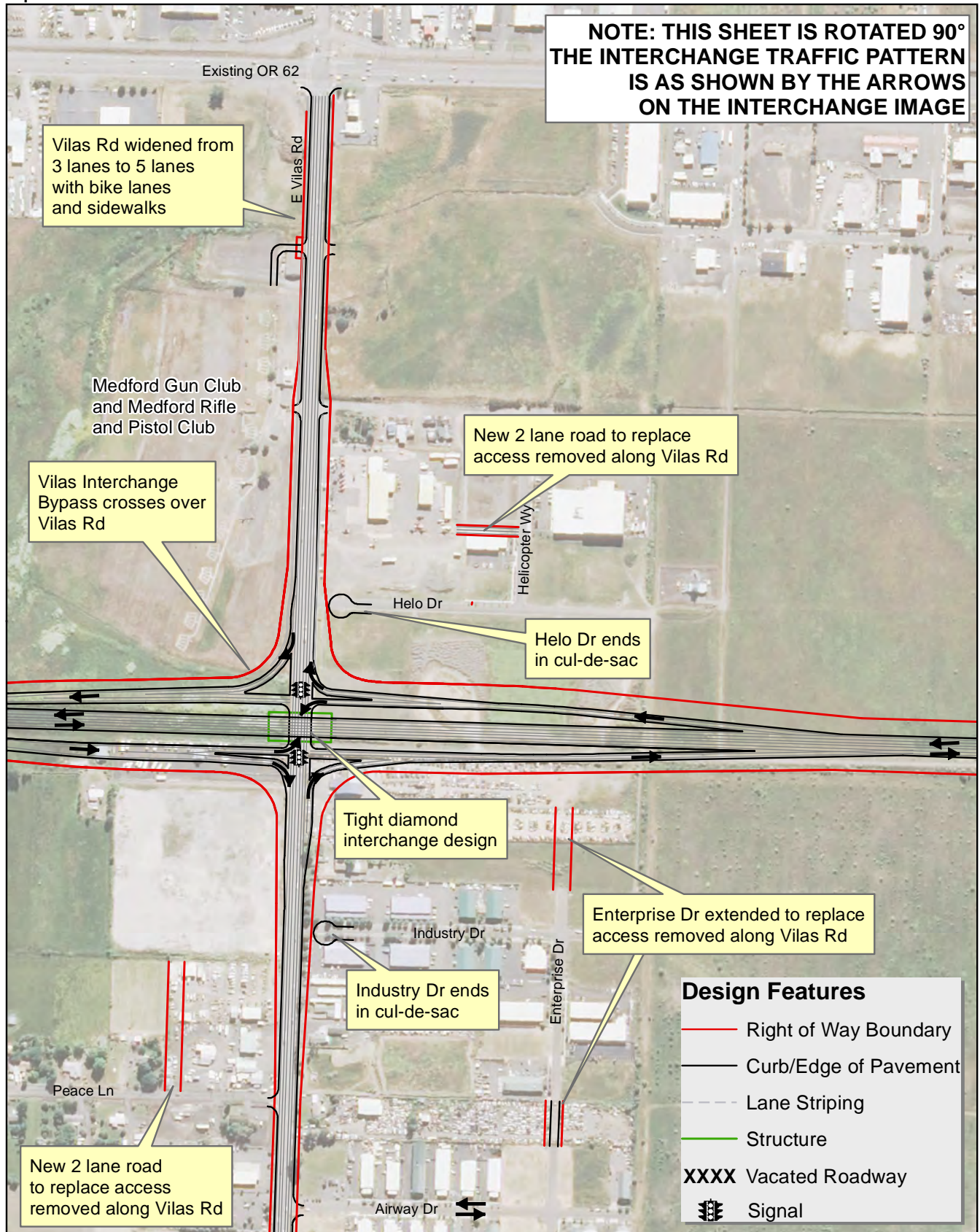


Figure 2-4: Sheet 7A of 13

OR 62 Build Alternatives - Design Mapset

7A of 13 - Design Option A

July 2012

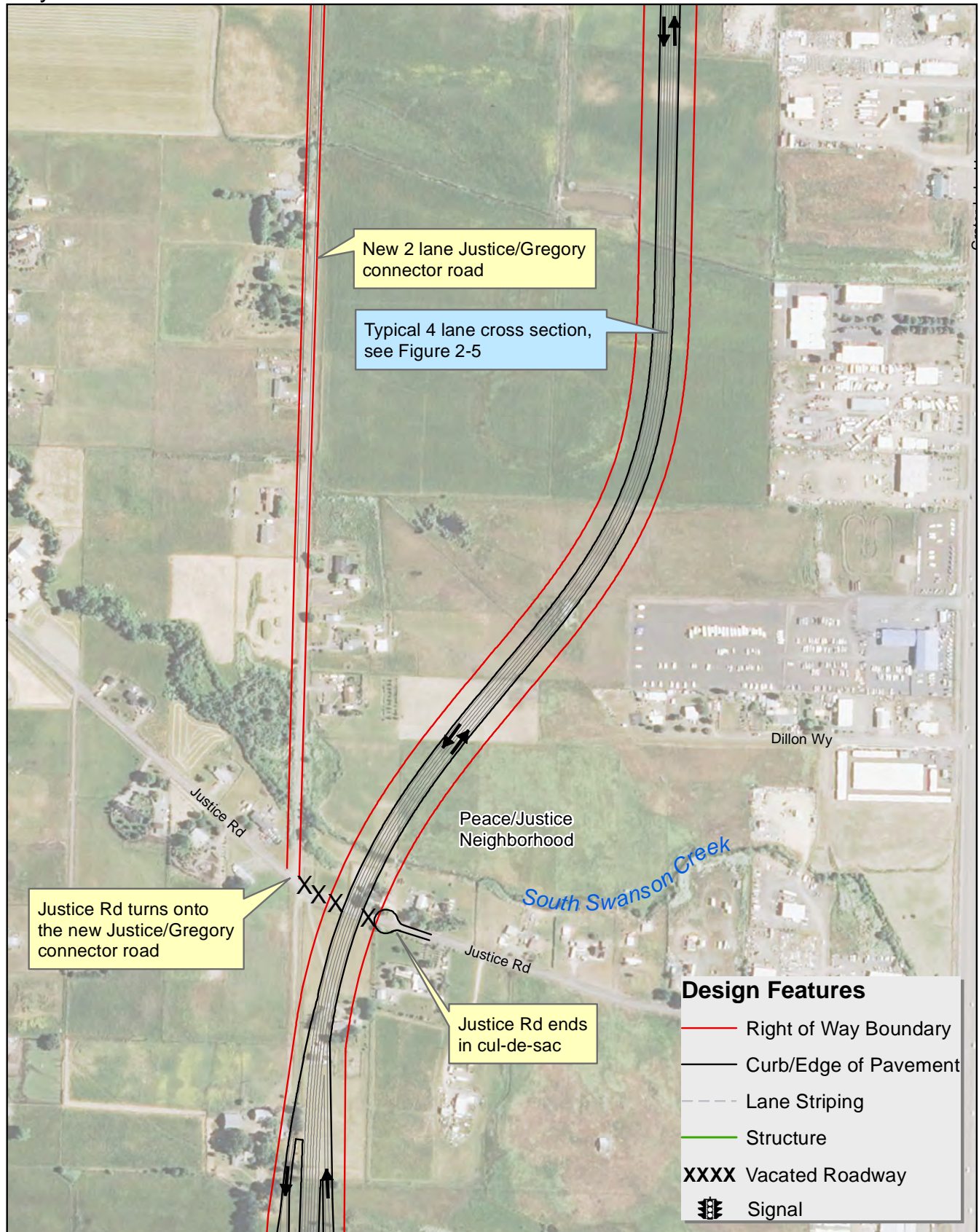
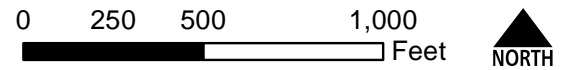


Figure 2-4: Sheet 7B of 13

OR 62 Build Alternatives - Design Mapset

7B of 13 - Build Option B

July 2012

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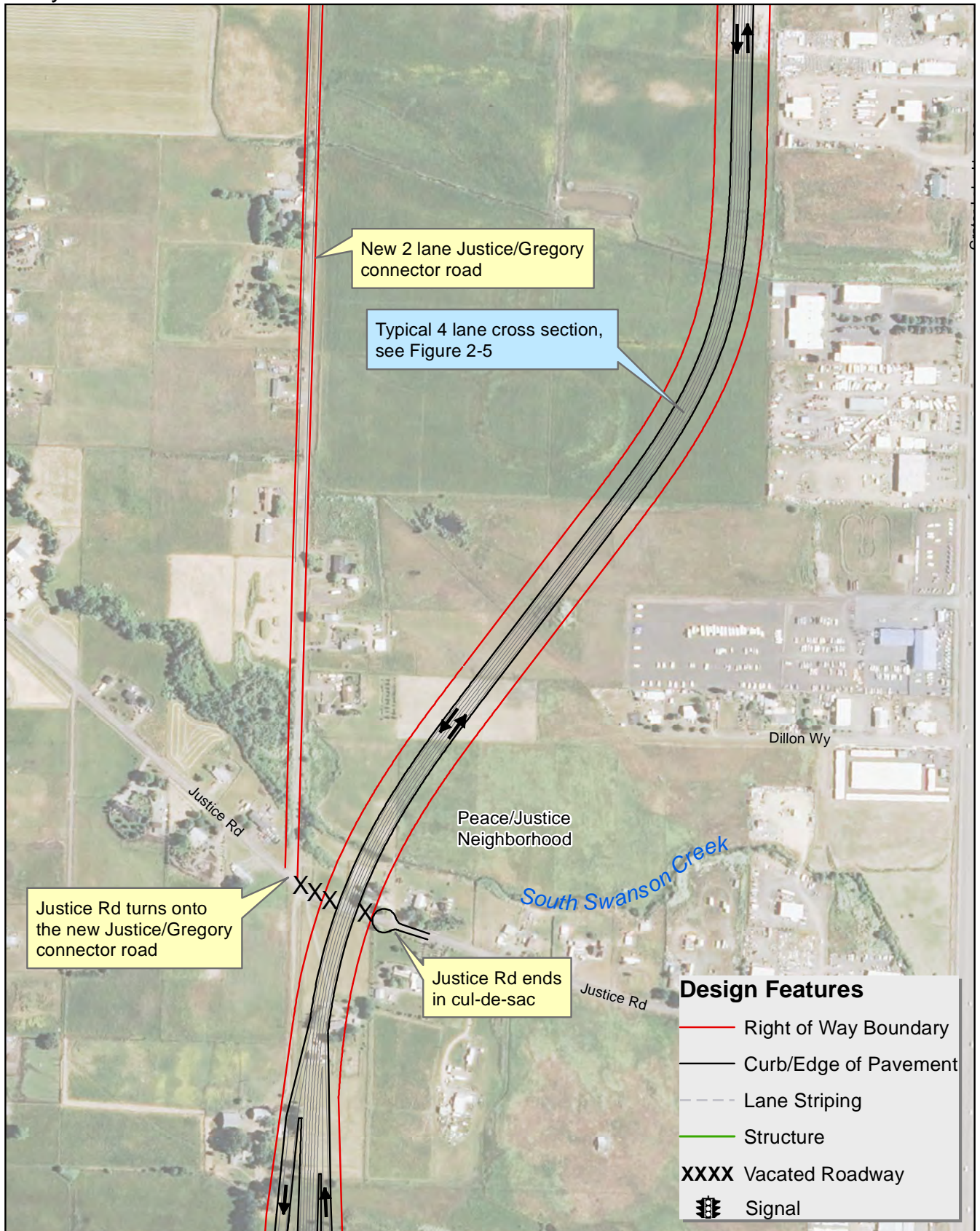


Figure 2-4: Sheet 7C of 13

OR 62 Build Alternatives - Design Mapset

7C of 13 - Design Option C

July 2012

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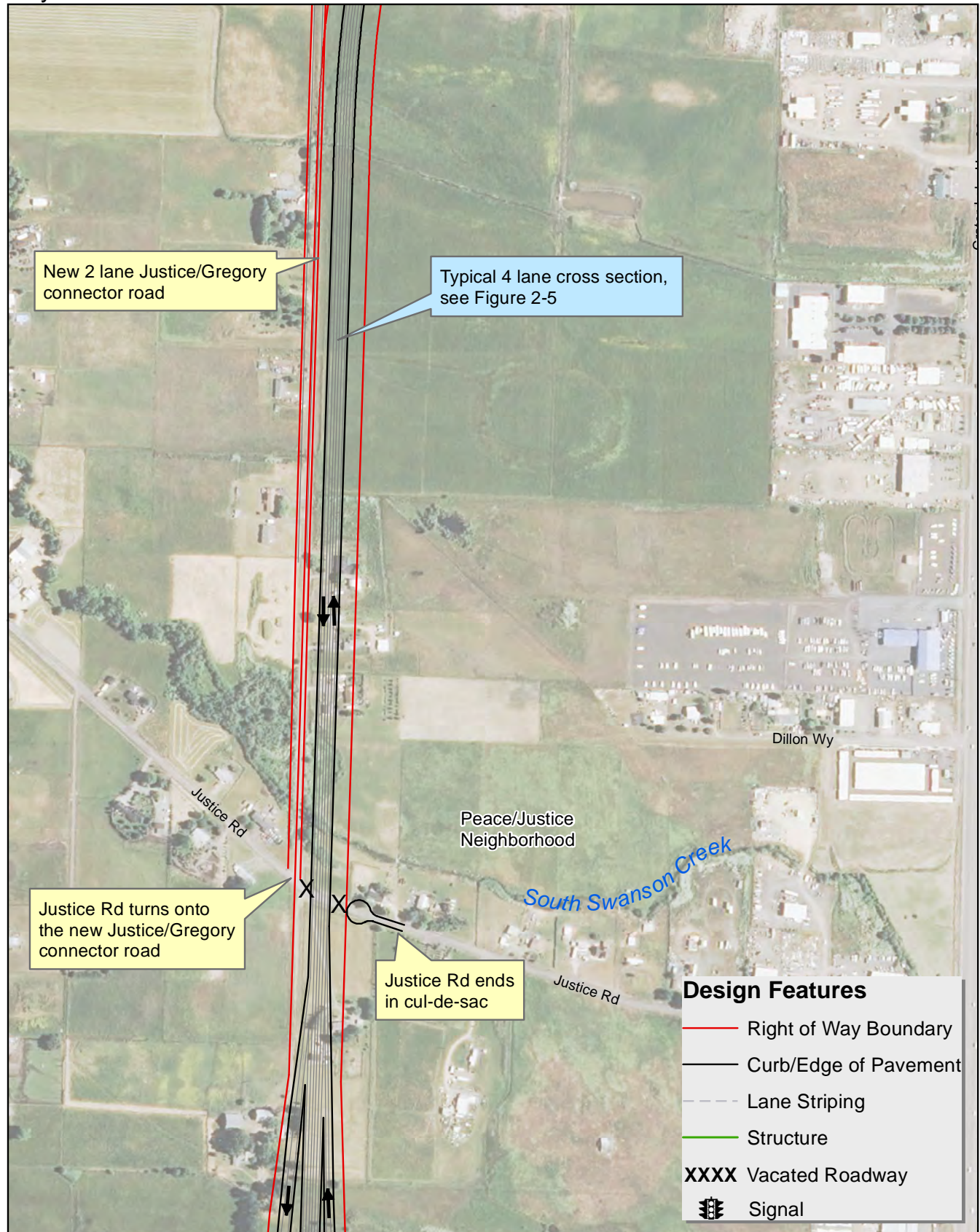


Figure 2-4: Sheet 7C FEIS of 13

OR 62 Preferred Alternative - Design Mapset
7C FEIS of 13 - Preferred Alternative
April 2013

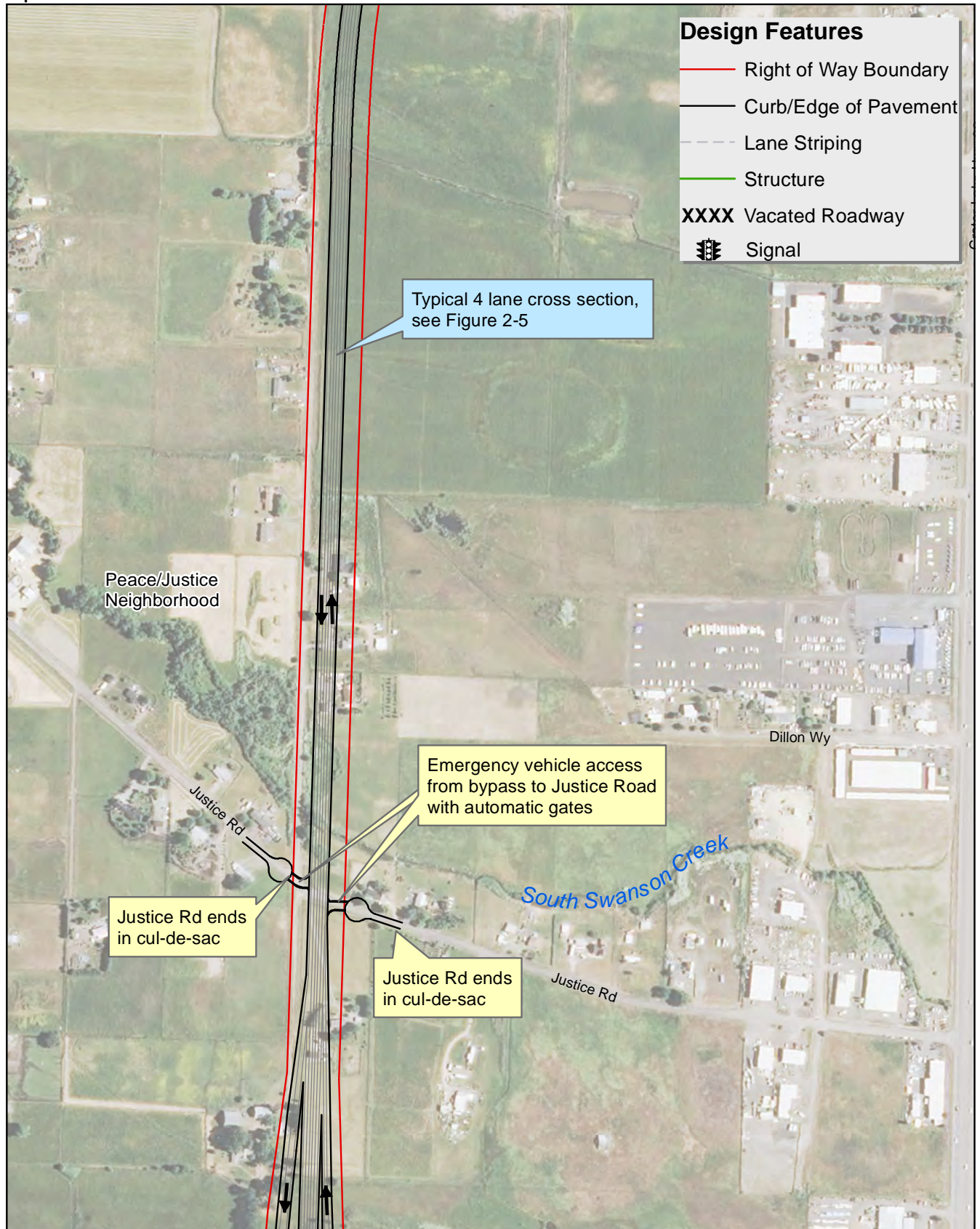
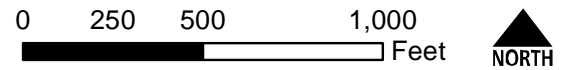


Figure 2-4: Sheet 8A of 13

OR 62 Build Alternatives - Design Mapset

8A of 13 - Design Option A

July 2012

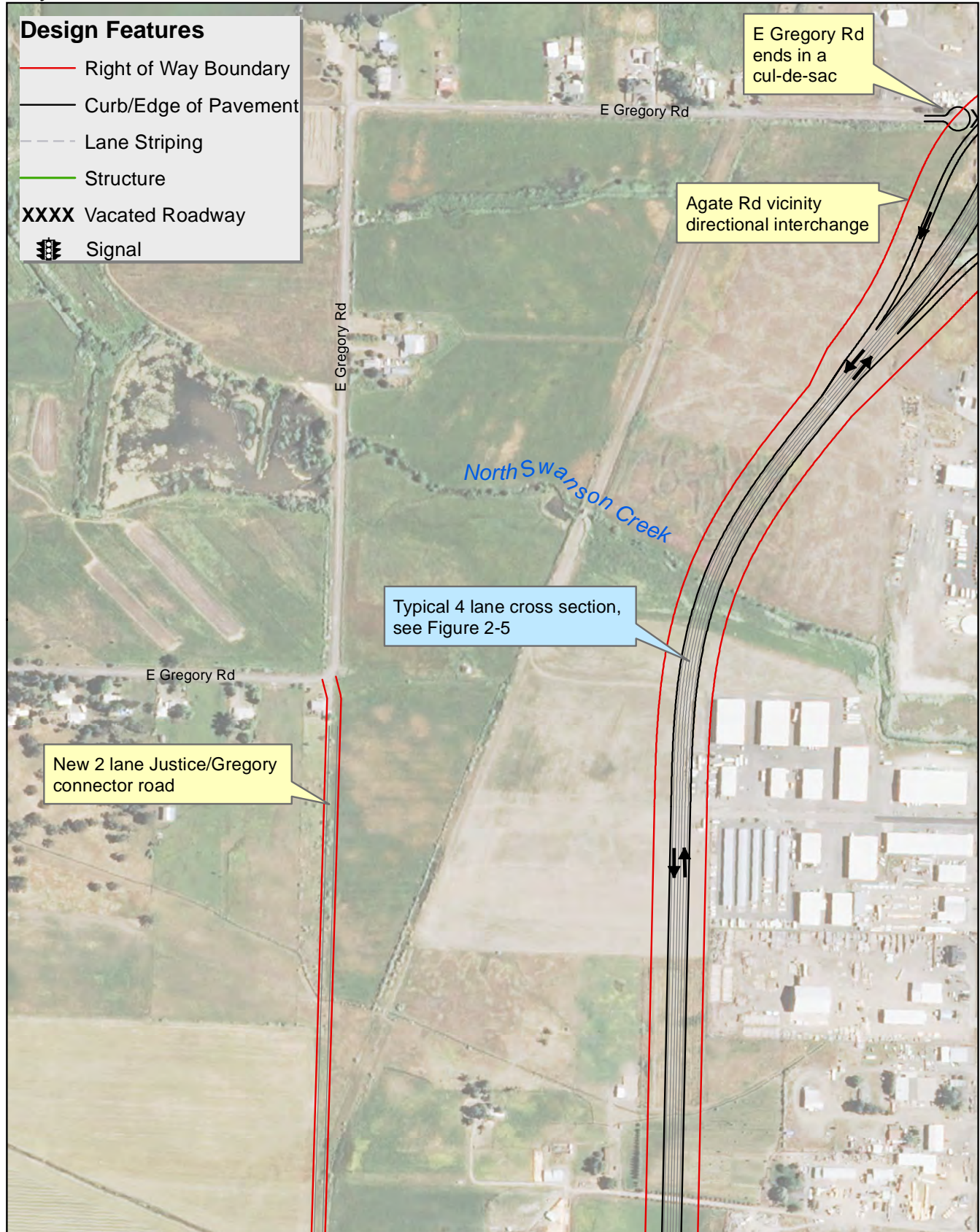
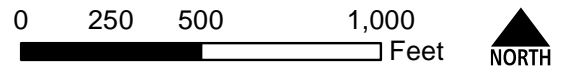


Figure 2-4: Sheet 8B of 13

OR 62 Build Alternatives - Design Mapset


8B of 13 - Build Option B

July 2012

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Design Features

- Right of Way Boundary
- Curb/Edge of Pavement
- Lane Striping
- Structure
- XXXX Vacated Roadway
-  Signal

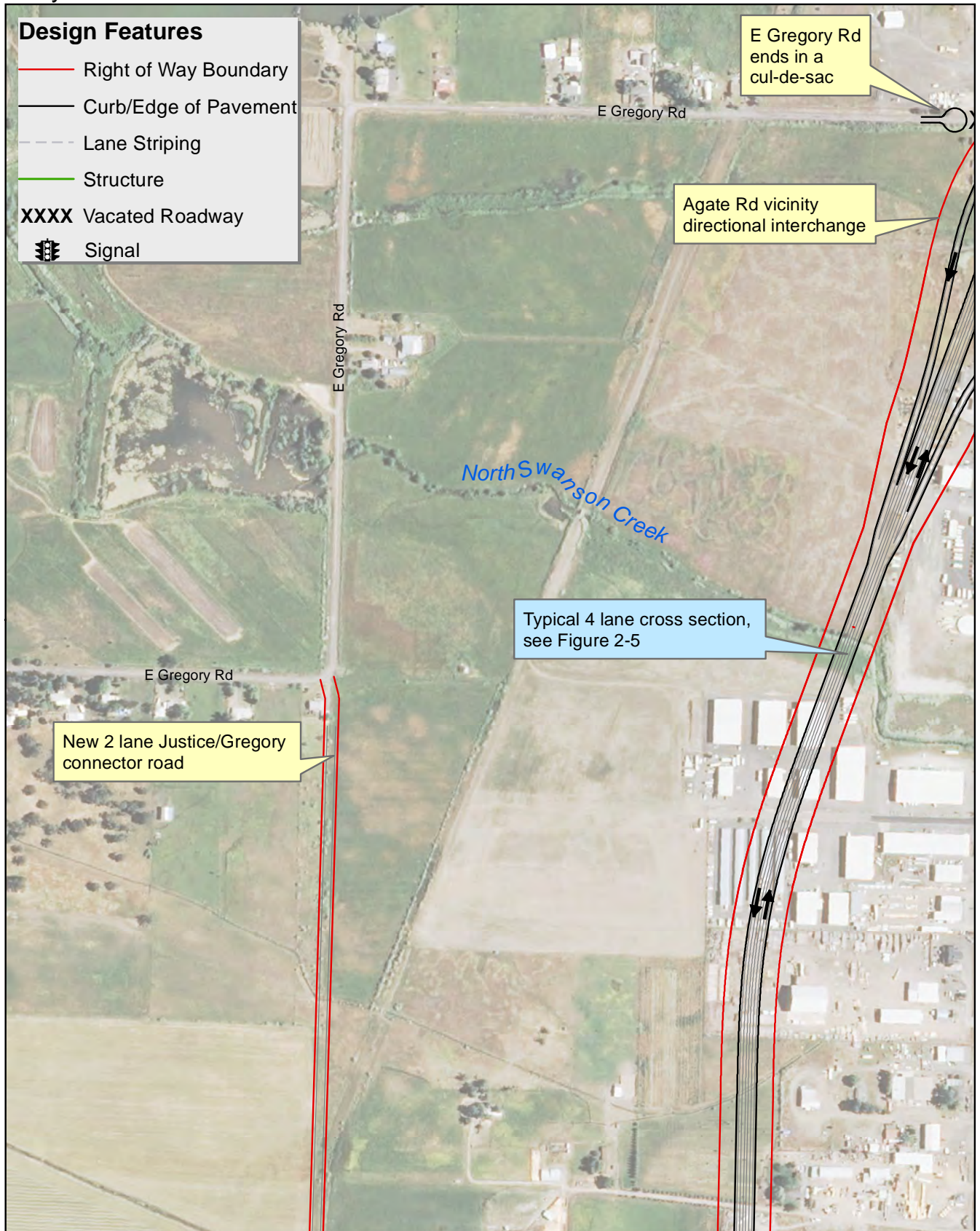


Figure 2-4: Sheet 8C of 13

OR 62 Build Alternatives - Design Mapset

8C of 13 - Design Option C

July 2012

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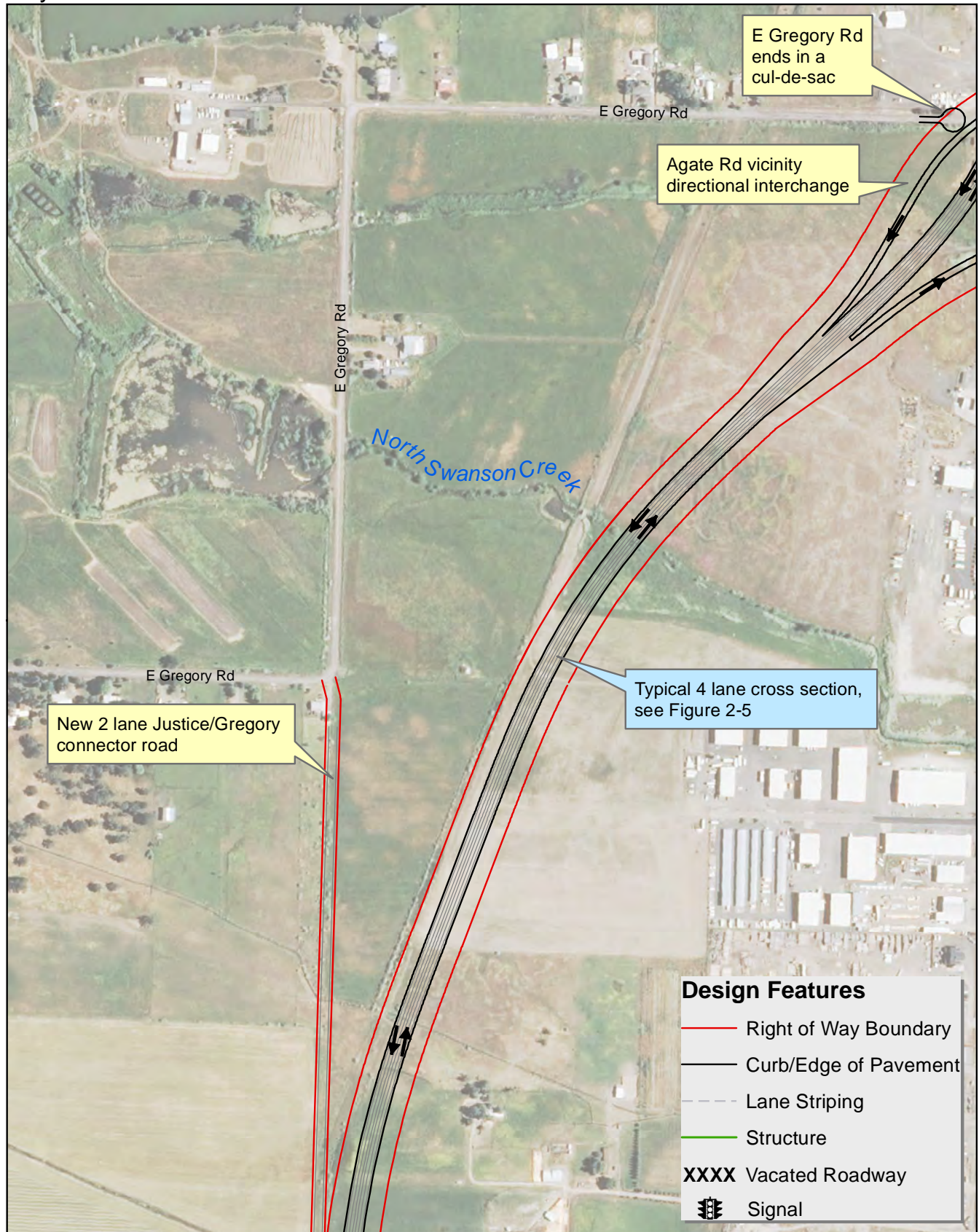


Figure 2-4: Sheet 8C FEIS of 13

OR 62 Preferred Alternative - Design Mapset
8C FEIS of 13 - Preferred Alternative
April 2013

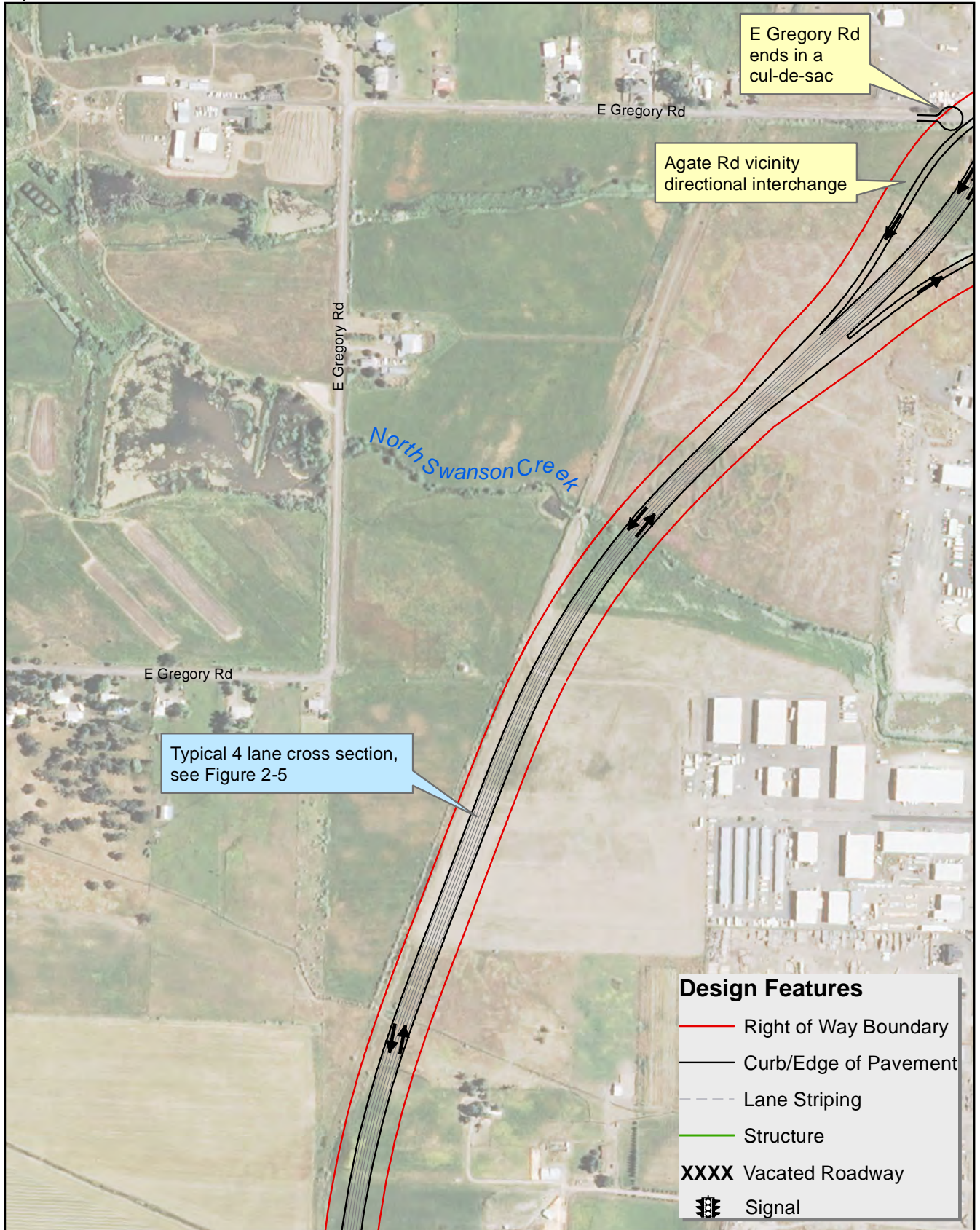
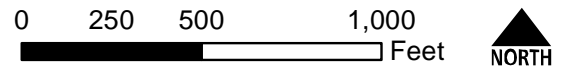


Figure 2-4: Sheet 9A of 13

OR 62 Build Alternatives - Design Mapset

9A of 13 - Design Option A

July 2012

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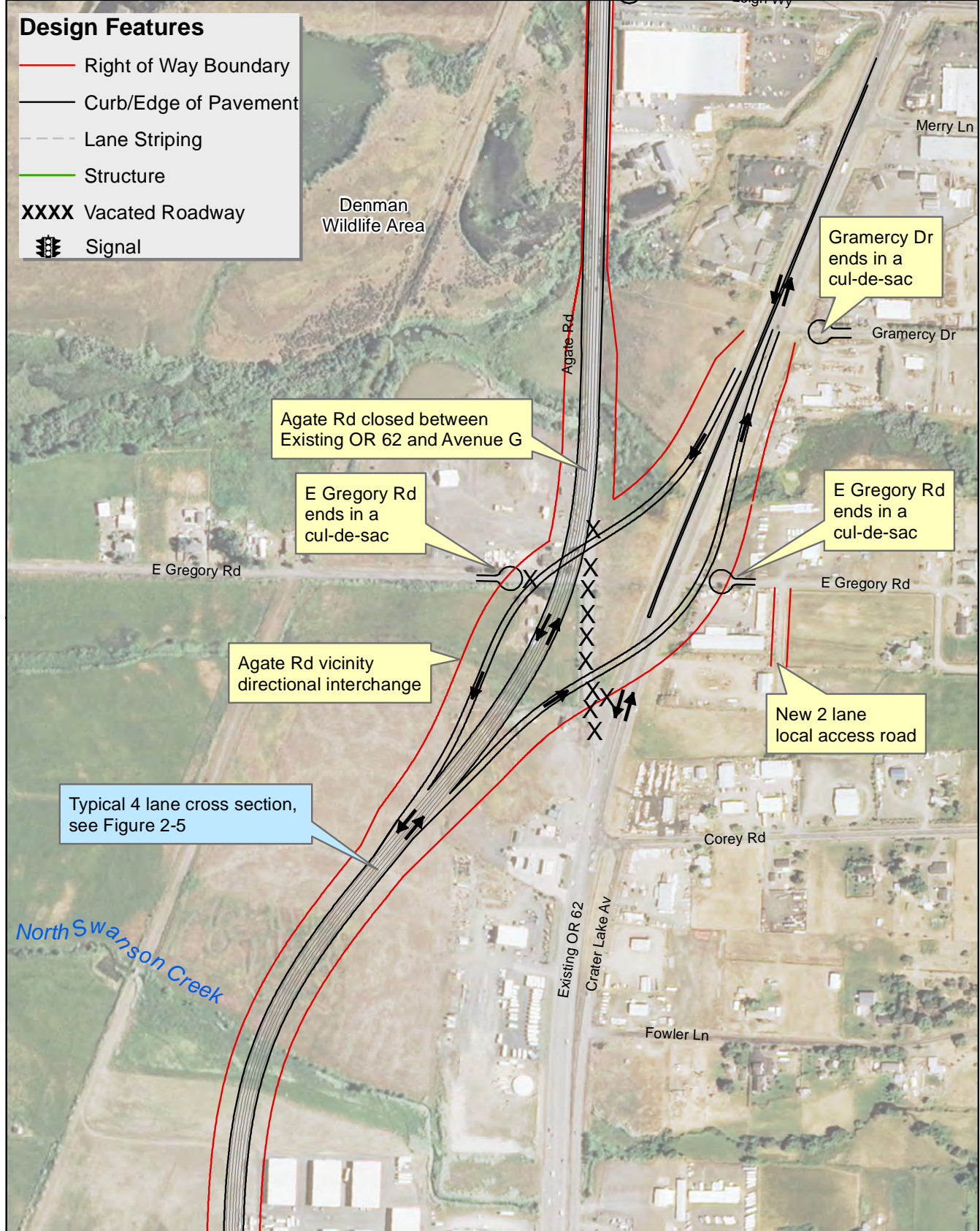


Figure 2-4: Sheet 9B of 13

OR 62 Build Alternatives - Design Mapset

9B of 13 - Build Option B

July 2012

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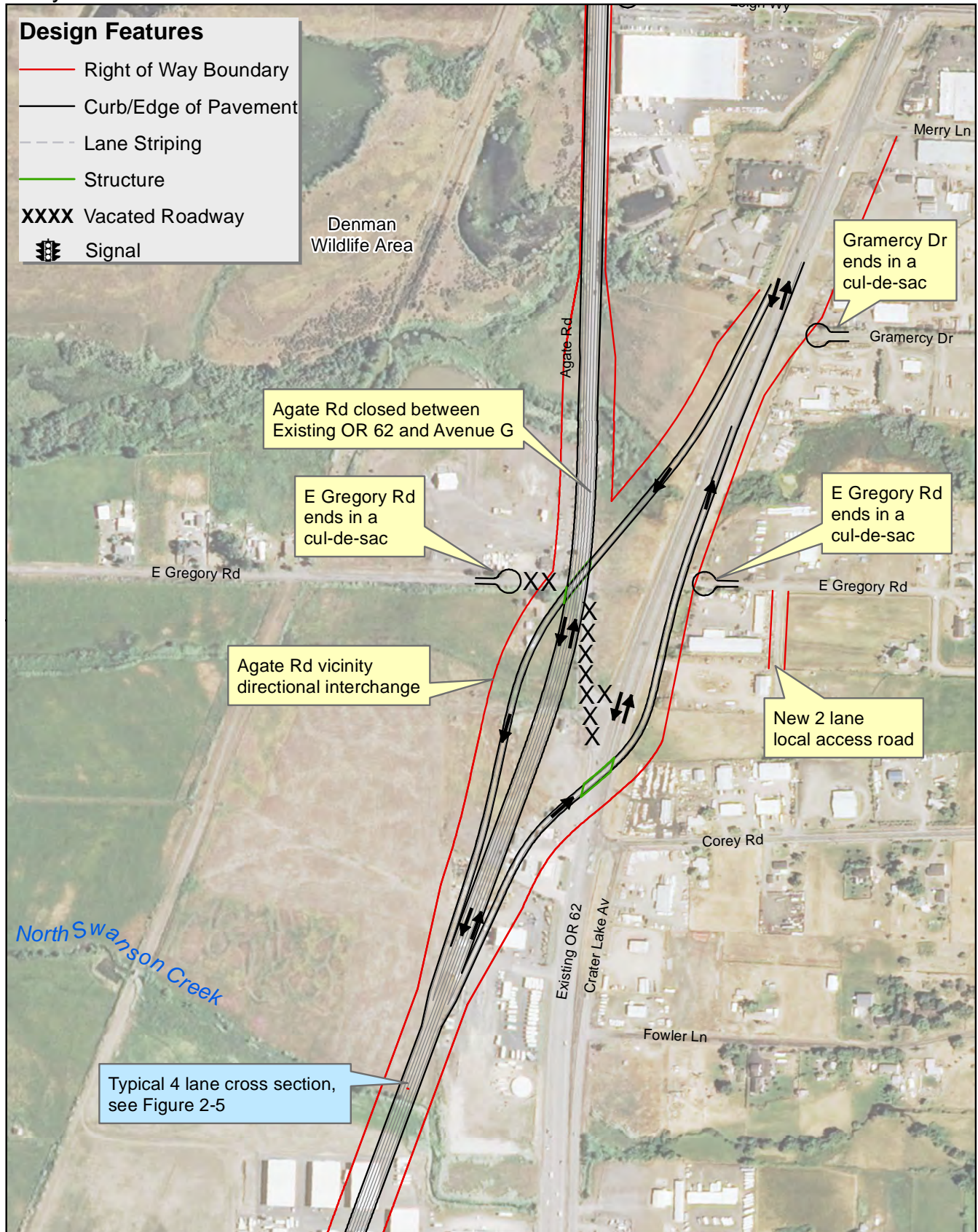


Figure 2-4: Sheet 9C of 13

OR 62 Build Alternatives - Design Mapset

9C of 13 - Design Option C

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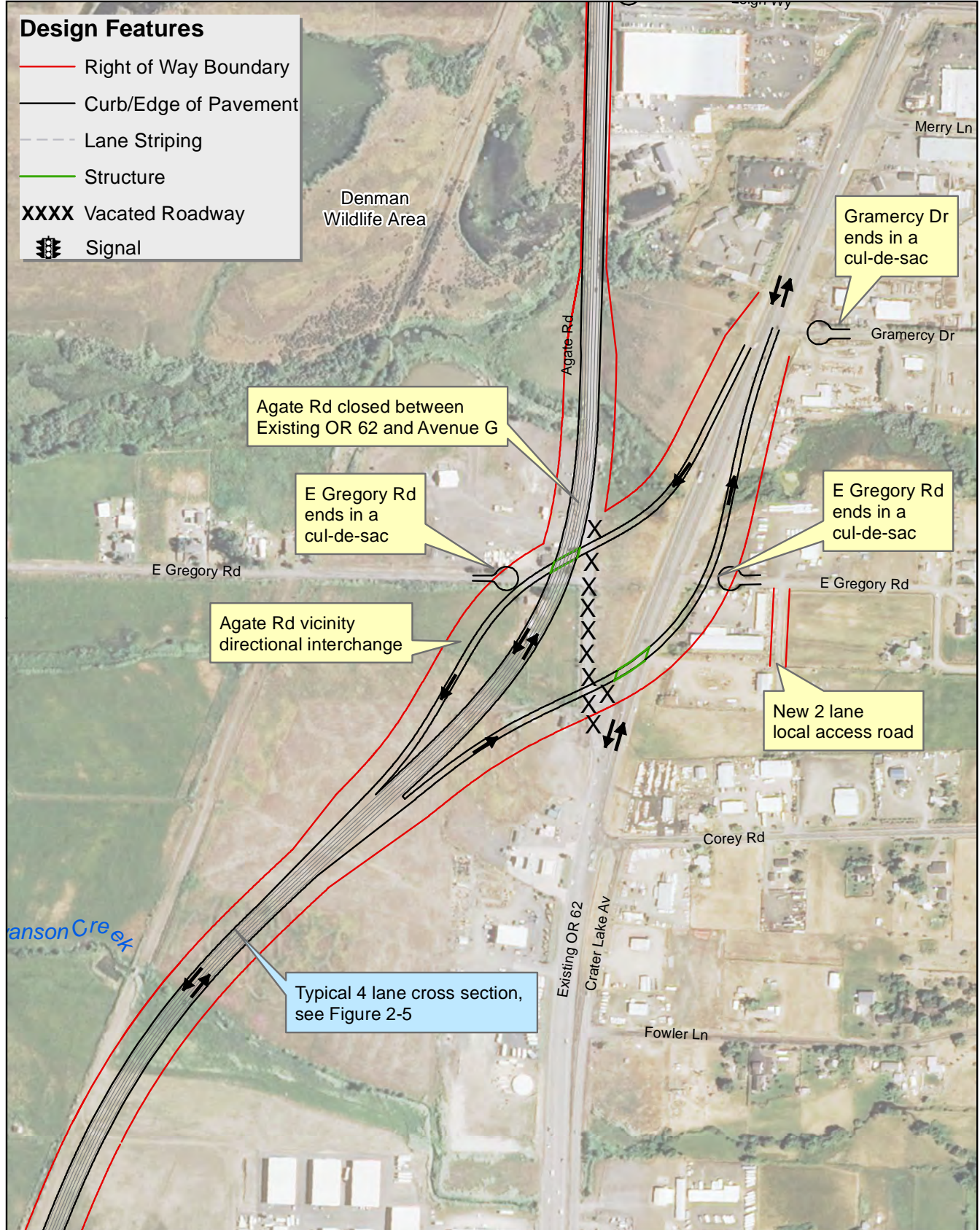


Figure 2-4: Sheet 10 of 13

OR 62 Build Alternatives - Design Mapset
 10 of 13 - Common to Both Build Alternatives
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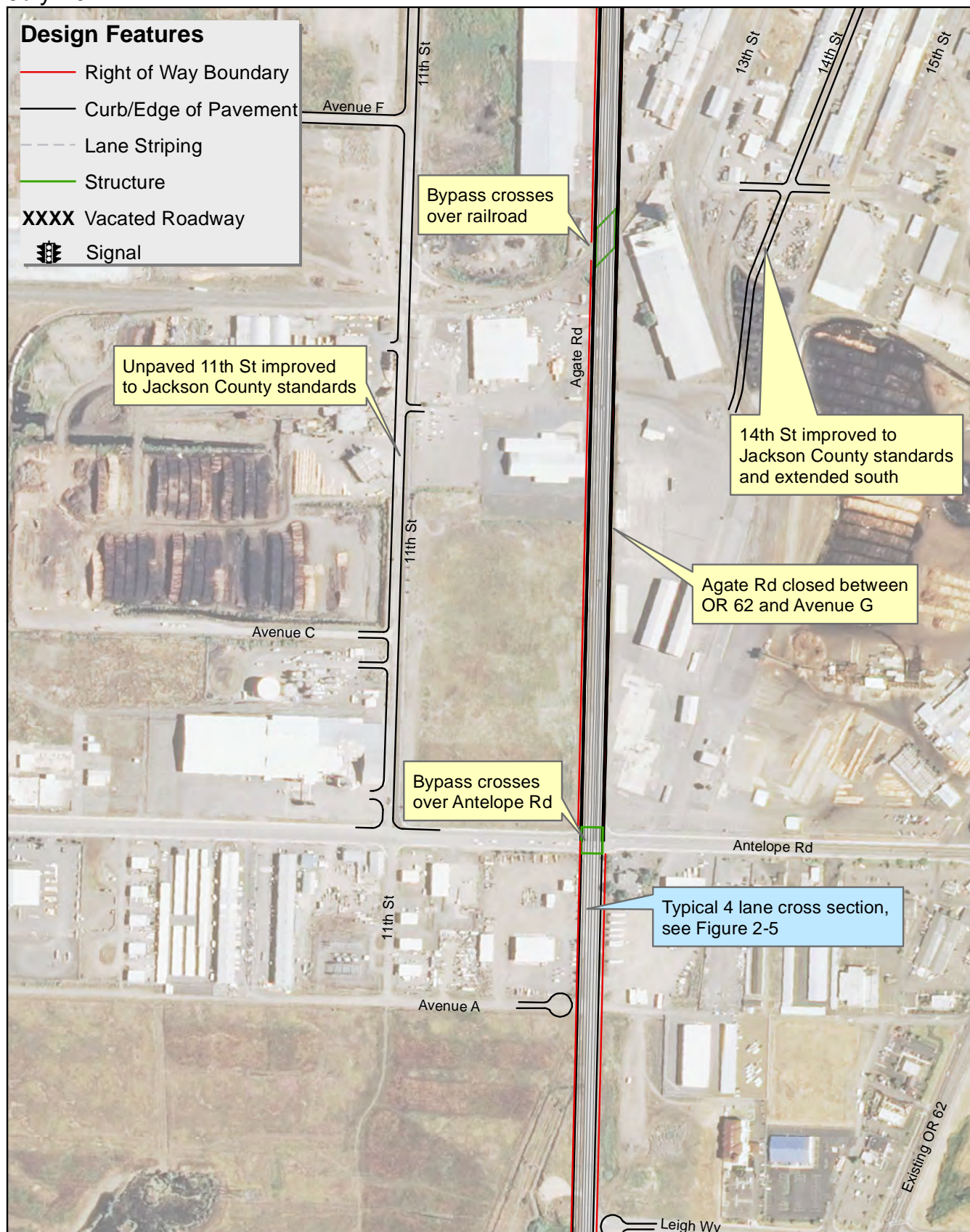
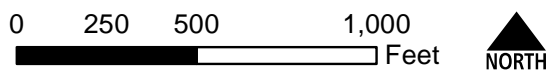


Figure 2-4: Sheet 11 of 13

OR 62 Build Alternatives - Design Mapset
11 of 13 - Common to Both Build Alternatives
July 2012

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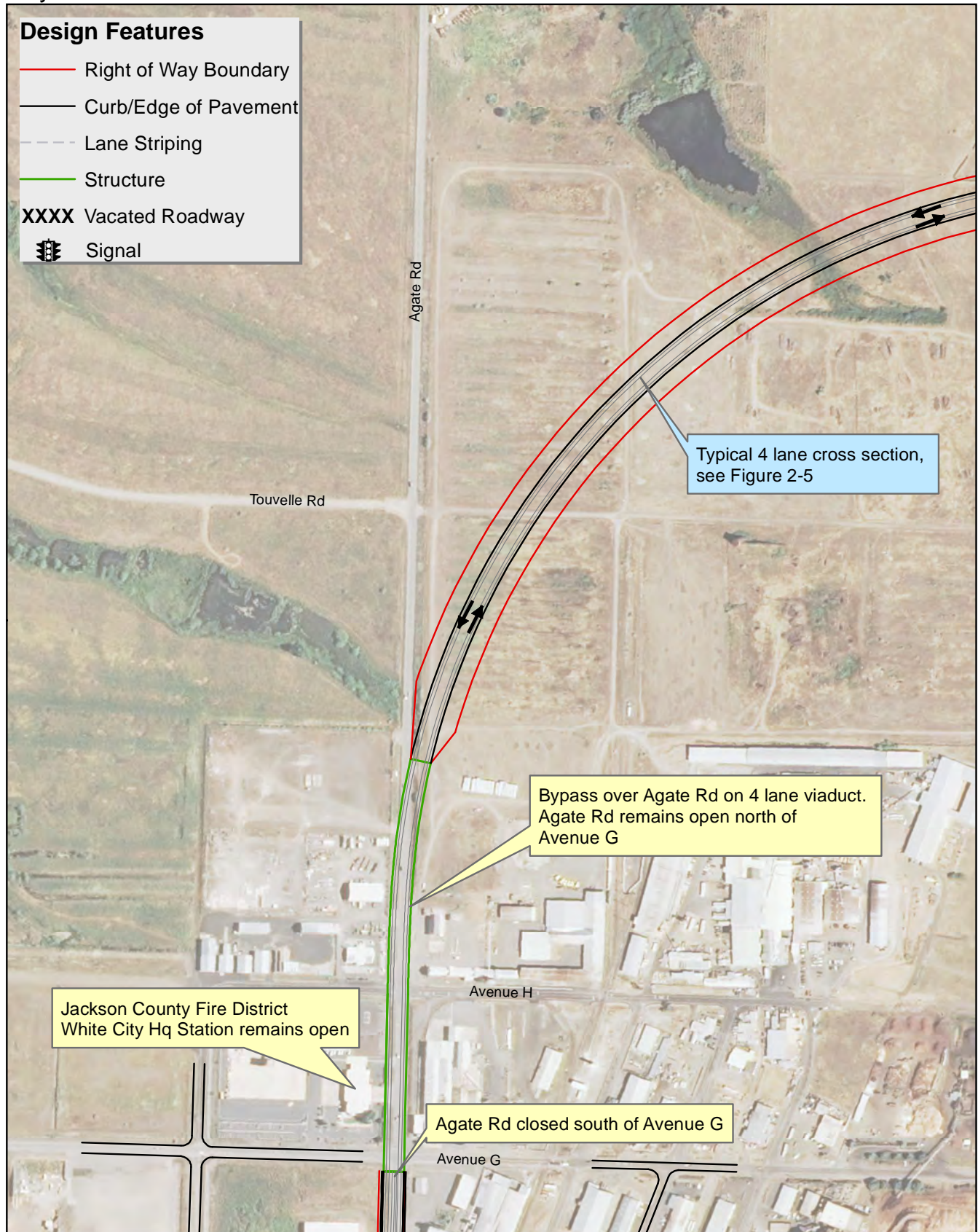


Figure 2-4: Sheet 12 of 13

OR 62 Build Alternatives - Design Mapset
12 of 13 - Common to Both Build Alternatives
July 2012

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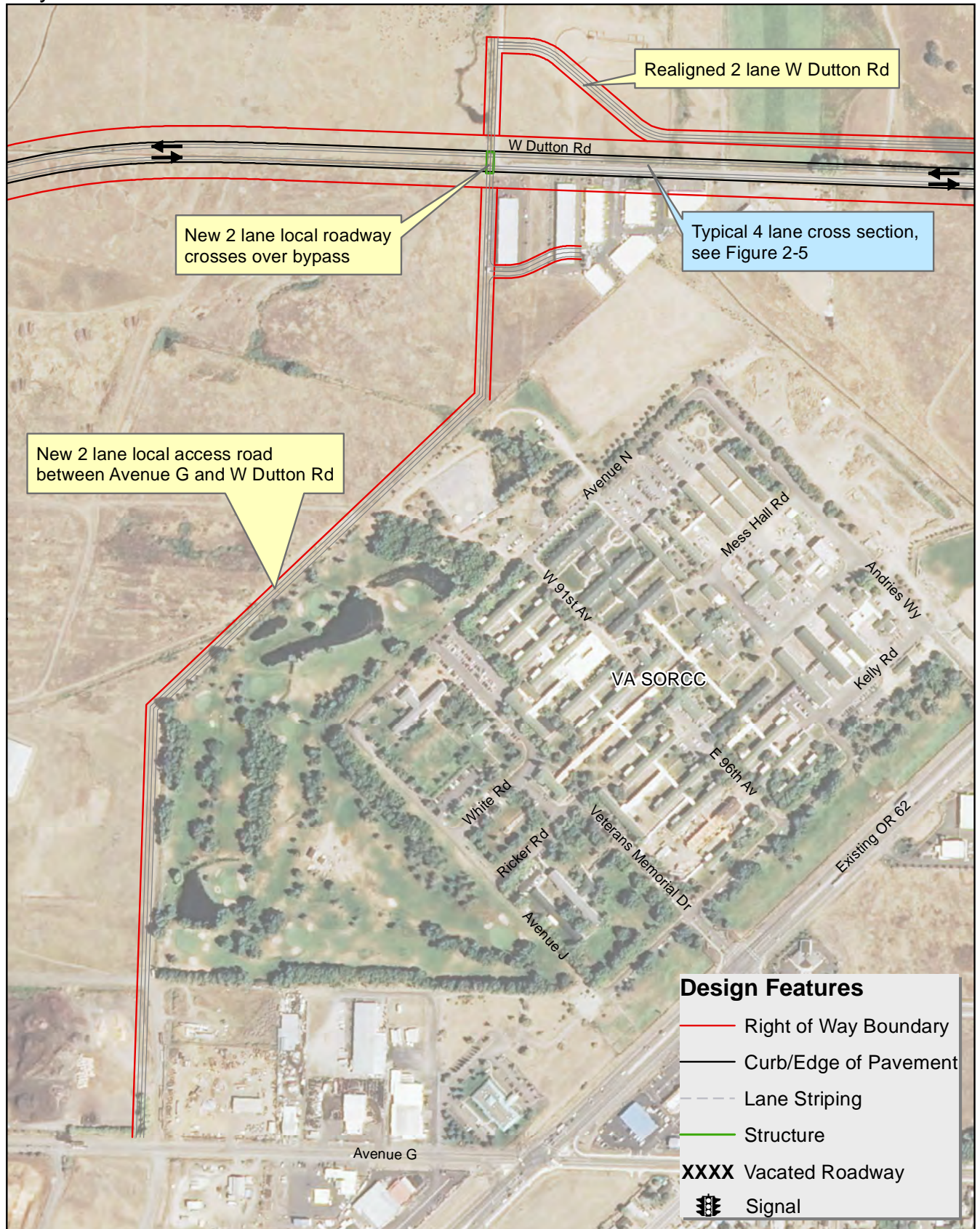
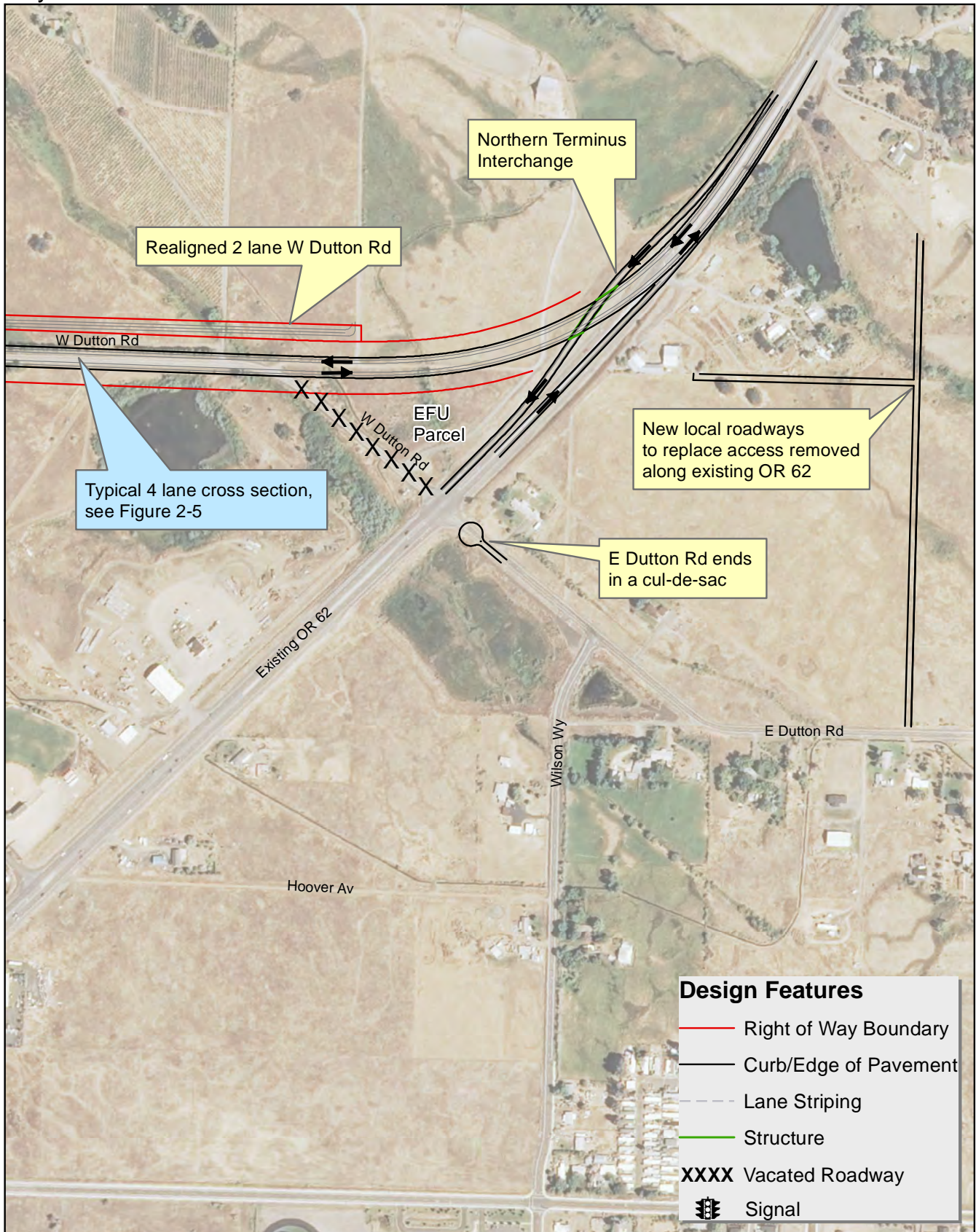


Figure 2-4: Sheet 13 of 13

OR 62 Build Alternatives - Design Mapset
13 of 13 - Common to Both Build Alternatives
July 2012

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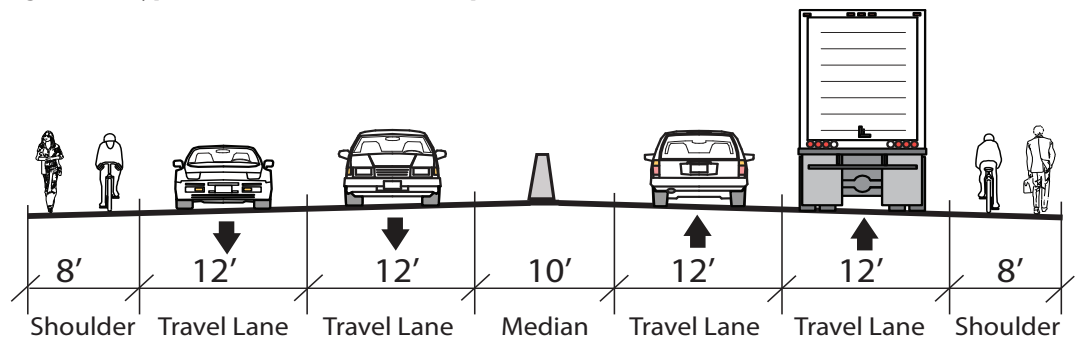
2.1.2.1 SD Alternative

The SD Alternative includes an access-controlled expressway located west of OR 62. ODOT has identified the SD Alternative as the recommended alternative. The bypass associated with the SD Alternative would intersect with I-5 at the North Medford Interchange, extend north past White City, and rejoin existing OR 62 in the vicinity of Dutton Road (see Figure 2-4). Interchanges would be located at I-5, Vilas Road, Agate Road, and Dutton Road. The bypass would include four 12-foot travel lanes (two in each direction), a 10-foot center median, and 8-foot shoulders. The 8-foot shoulders would also serve as a bikeway/walkway. Figure 2-5 is a typical cross section of the proposed bypass.

With the SD Alternative, the North Medford Interchange would be converted to a split diamond design. The proposed bypass would terminate at I-5 approximately 1,400 feet north of existing OR 62. Interchange ramps would be added to allow movements to and from the bypass, I-5, and existing OR 62. Index Sheets 1A and 1B of Figure 2-4 illustrates the proposed I-5 /OR 62 split diamond interchange. The interchange would incorporate most of the existing interchange ramps. The existing I-5 southbound off-ramp would be realigned and lengthened.

Southbound traffic on the proposed bypass could merge onto the realigned I-5 southbound off-ramp, which would continue south to a signalized intersection with existing OR 62. At that intersection, vehicles could either turn north or south onto existing OR 62. Southbound traffic on the proposed bypass heading to I-5 southbound could turn left before the I-5 southbound off-ramp onto a new I-5 southbound on-ramp. The existing I-5 southbound on-ramp for existing OR 62 traffic would be realigned and lengthened to merge with the new I-5 southbound on-ramp. Southbound traffic traveling on the new I-5 southbound on-ramp would travel under existing OR 62 before merging onto I-5 southbound. The two existing I-5 northbound on-ramps would also be realigned. The existing loop ramp for northbound OR 62 traffic would be lengthened and realigned, to eliminate the free-flowing right turn movement. A new ramp would be added, connecting the I-5 on-ramp to the proposed bypass. Northbound traffic on OR 62 could turn right onto the on-ramp, loop underneath existing OR 62, and would have the choice of either turning right onto the bypass northbound, or continuing straight onto I-5 northbound. The existing ramp for southbound OR 62 traffic heading to I-5 northbound would be realigned to connect to the bypass. Southbound traffic on OR 62 would turn right onto this ramp, and, rather than merging directly onto I-5 northbound, this traffic would intersect with the bypass at a new signalized intersection and have the option to turn right onto the bypass northbound or continue straight through the intersection and use a new ramp to get to I-5 northbound. All of the other existing roads and ramps in the vicinity of the North Medford Interchange would remain unchanged. Aside from the changes to the I-5 northbound ramp ends at OR 62, there would be no changes to existing OR 62.

Figure 2-5: Typical Cross Section of the Proposed Build Alternatives



The bypass would cross over the top of I-5, Biddle Road, Hilton Road, and Bullock Road. Between these overpasses, the bypass would be on a fill slope. East of the Bullock Road overpass, the bypass would return to ground level and would be located slightly lower than existing OR 62. It would be directly adjacent to the north side of existing OR 62 until approximately Whittle Avenue, where it would turn north and follow the alignment of the Medco Haul Road at ground level.¹ Commerce Drive would end in a cul-de-sac at the bypass, but there would be no other changes to local streets in the area.

Two changes to the design of the Preferred Alternative in this area have been made. First, an exclusive right-turn lane from existing OR 62 southbound to Bullock Road westbound has been added. Second, the bypass will cross over Commerce Drive on an elevated structure, rather than end in a cul-de-sac at the bypass. This will enable Commerce Drive to continue to serve as the main approach road to the United States Citizenship and Immigration Services (USCIS) building and other commercial facilities located on the eastern edge of the Medford Airport. Extending Commerce Drive under the bypass also makes it possible to remove from the project the extension of roadway access to the USCIS building and other buildings from Vilas Road via Airway Drive, as described in the discussion of local street modifications below.

North of approximately Commerce Drive, the SD Alternative is identical to the DI Alternative as described in Section 2.1.2.3, Common Design Features of the build alternatives (Commerce Drive to Dutton Road).

2.1.2.2 DI Alternative

Like the SD Alternative, the DI Alternative is an access-controlled bypass located west of OR 62. Unlike the SD Alternative, the DI Alternative would not intersect with I-5. Instead, its southern terminus would be a directional interchange with OR 62 between Delta Waters Road and Poplar Drive near the south end of the runway of the Rogue Valley International-Medford Airport (referred to as the Medford International Airport; see Index Sheet 2B of Figure 2-4).

Like the SD Alternative, the DI Alternative bypass would also extend north past White City and rejoin existing OR 62 in the vicinity of Dutton Road. Interchanges would be located at I-5, Vilas Road, Agate Road, and Dutton Road. The bypass would include four 12-foot travel lanes (two in each direction), a 10 foot center median and 8 foot shoulders. Figure 2-5 shows a typical cross section of the proposed bypass, which is the same as under the SD Alternative.

The DI Alternative would not modify the existing I-5 North Medford Interchange, and traffic movements between OR 62 and I-5 would remain unchanged. Between I-5 and Delta Waters Road, existing OR 62 would be redesigned as an access-controlled four-lane facility. Driveways that currently connect to existing OR 62 in this area would be reconfigured to connect to the local street network instead. The existing signalized intersection of OR 62 and Poplar Drive and Bullock Road would be eliminated. Instead, OR 62 would be grade-separated and cross over the top of Poplar Drive and Bullock Road. Index Sheets 2B and 2C of Figure 2-4 illustrate the directional interchange.

Northbound traffic on existing OR 62 could either turn right onto the existing jug handle leading to Biddle Road and from there travel on the local street network or continue northbound on existing OR 62. OR 62 would cross over the top of

¹ The “Medco Haul Road” refers to the alignment of an abandoned railroad west of OR 62. It was once a privately-owned linear right-of-way, made up of multiple parcels, that roughly parallels OR 62 from Medford through White City. After the railroad was abandoned, portions of its right-of-way have been divided and acquired by public agencies and private individuals. ODOT acquired the parcels that make up the alignment from Biddle Road to Vilas Road in 1986 to meet potential future roadway needs. ODOT formerly allowed non-motorized transportation use (such as by bicyclists and pedestrians) of the Medco Haul road on a temporary basis up to Vilas Road. North of Vilas Road, the former railroad right-of-way has been divided into a mix of narrow, privately-owned parcels and short segments of Jackson County owned roadways used for private access roads to adjoining properties.

Poplar Drive and Bullock Road, after which one could travel in the right two lanes to remain on existing OR 62 or travel in the left two lanes and use the proposed bypass. Both of these movements would be free-flowing; there would be no stop signs or traffic signals. Vehicles traveling southbound on existing OR 62 would cross over the top of the bypass on a ramp; after crossing the bypass, vehicles would have the option to exit onto Bullock Road or remain on OR 62 and merge with southbound traffic from the bypass. Vehicles traveling southbound on the bypass could either remain on the bypass, crossing under the aforementioned ramp and merging with traffic from existing OR 62, or exit onto Bullock Road. South of the directional interchange, southbound traffic on OR 62 would cross over the top of Poplar Drive and Bullock Road and could either exit onto Hilton Road (the Hilton Road intersection would not be modified) or continue south to I-5 and beyond.

As noted above, between I-5 and approximately Delta Waters Road, driveways that currently connect to OR 62 would be relocated to connect to local streets. On the south side of OR 62, Skypark Drive and Corona Avenue would be extended to create a connection between Hilton Road and Whittle Avenue. Businesses on the south side of OR 62 would be accessed via Skypark Drive. Although Bullock Road and Poplar Drive would be modified slightly as a result of the grade-separation from OR 62, driveways that currently connect to Bullock Road or Poplar Drive would remain intact. North of Delta Waters Road, existing OR 62 would not be modified and neither existing driveways nor existing intersections would be modified. The new or rebuilt local streets would be designed to City of Medford standards and would include bicycle lanes and sidewalks on both sides of the street.

North of the directional interchange, the proposed bypass would be located on the Medco Haul Road alignment in approximately the same location as the bypass in the SD Alternative. Commerce Drive would terminate in a cul-de-sac at the proposed bypass.

North of approximately Commerce Drive, the DI Alternative is identical to the SD Alternative as described in Section 2.1.2.3, Common Design Features of the build alternatives (Commerce Drive to Dutton Road).

2.1.2.3 Design Features Common to Both Build Alternatives (Commerce Drive to Dutton Road)

North of Commerce Drive, the two build alternatives are identical. Both build alternatives consist of an access-controlled bypass and would include modifications to local streets.

Between Justice Road and Agate Road, there are three design options for the alignment of the bypass. The description below first describes the bypass, itself, including the three design options, then describes changes to the local streets.

Bypass

Commerce Drive to Gregory Road

North of Commerce Drive, both build alternatives would consist of an access-controlled bypass with the typical cross-section shown in Figure 2-5, above. The bypass would be located on the Medco Haul Road alignment, approximately 2,400 feet west of and parallel to existing OR 62. The bypass would remain at-grade until just south of Vilas Road, where it would be elevated on fill and cross over the top of Vilas Road. A new single-point urban interchange (SPUI) at Vilas Road would be built to provide connections between the bypass and Vilas Road. Index Sheet 6 of Figure 2-4 includes a diagram of the proposed SPUI. The dark dotted lines show left turn movements between the proposed bypass and Vilas Road; these movements would be regulated by a single traffic signal. The signalized intersection would be at grade level, and the bypass would cross over the top of the intersection (the overcrossing is not shown in the diagram).

The SPUI interchange design has been dropped from the Preferred Alternative and replaced by a tight diamond design to reduce project cost. The estimated cost savings is \$5.25 million. (ODOT 2012) Index Sheet 6 FEIS of Figure 2-4 shows the interchange with a tight diamond design.

North of Vilas Road, the bypass would return to grade level. Both build alternatives would bisect Justice Road. On the east side of the bypass, Justice Road would terminate in a cul-de-sac. On the west side of the bypass, Justice Road would intersect with a new local road, referred to as the Justice/Gregory connector road. This new local road would connect Justice Road with Gregory Road along the Medco Haul Road alignment.

Two changes have been made to the design of the Preferred Alternative in this segment. First, gates at the cul-de-sacs where Justice Road terminates on both the east and west sides of the bypass will be installed to allow emergency vehicles to enter or leave the bypass, providing for better emergency response times. Second, the Justice/Gregory connector road has been eliminated from the project to reduce project cost and will not be built. The estimated cost savings is \$1.6 million. (ODOT 2012)

Between approximately Justice and Gregory Roads there are three design options: A, B, and C (see Figure 2-6). The three design options would function the same, but are intended to offer a choice among different combinations of impacts on vernal pool wetlands, farmland, and businesses. Design Option A was initially prompted by the PDT and the CAC as an alignment that attempted to minimize impacts to both natural and socio-economic resources. Option B was developed in response to regulatory agency input and it is intended to provide a point of comparison to judge the relative impact to regulated natural resources. Option C was developed in response to comments by adjacent business and landowners during the alternatives development phase. Index Sheets 7A through 9C of Figure 2-4 detail the differences among the design options.

Figure 2-6 FEIS shows the Preferred Alternative, which includes Design Option C.

Design Option A

With Design Option A, the bypass would turn slightly to the east after crossing Justice Road and then turn north to parallel existing OR 62. Design Option A would be located approximately 1,200 feet west of existing Highway 62. Just south of Gregory Road, Design Option A would curve to the east and intersect with existing OR 62 in the vicinity of the existing OR 62/Agate Road intersection. The bypass would use the Agate Road alignment to continue north. A new directional interchange would be located where the OR 62/Agate Road intersection is now. The interchange is the same under all three options, although the footprint would be slightly different. The interchange is described below.

Design Option B

Design Option B would be located east of, and parallel to, Design Option A. With Design Option B, the bypass would turn slightly to the east after crossing Justice Road and then turn north to parallel existing OR 62. Design Option B would be located approximately 900 feet west of existing OR 62. Design Option B would curve eastward to intersect with existing OR 62 in the vicinity of existing OR 62/Agate Road intersection. A new directional interchange would be located where the OR 62/Agate Road intersection is now.

Design Option C

ODOT has identified the SD Alternative with Design Option C as the recommended alternative. Design Option C would be located west of Design Options A and B. It would follow the Medco Haul Road alignment north past Justice Road, approximately 2,500 feet west of existing OR 62. Design Option C would remain on the Medco Haul Road alignment as that alignment turns slightly northeast, approximately 3,500 feet north of Justice Road. Just south of Gregory Road, Design Option C would leave the Medco Haul Road alignment and turn eastward towards existing OR 62. There would be a new directional interchange between the bypass and existing OR 62 in the vicinity of existing OR 62/Agate Road intersection.

Gregory Road to Northern Terminus

As noted above, all three design options would include a directional interchange in the vicinity of the existing OR 62 and Agate Road intersection (see Figure 2-6). As Figure 2-7, and Index Sheets 9A, 9B and 9C of Figure 2-4 show, the interchange would only allow certain movements between the bypass and OR 62. There would be an off-ramp to allow northbound traffic on the bypass to exit and continue northbound on existing OR 62. There would also be an on-ramp to allow southbound traffic on existing OR 62 to get onto the bypass southbound. These ramps would allow free-flowing movement and would not include traffic signals or stop signs. No other movements between the bypass and OR 62 would be accommodated. The interchange would provide for neither southbound-to-northbound movements nor northbound-to-southbound movements. This lack of a full range of movements may require a design exception.

North of the interchange at Agate Road, there is only one design for both build alternatives. Immediately north of the interchange, the bypass would follow the Agate Road right-of-way. There is a dip in Agate Road along the eastern border of the Denman Wildlife Area; the bypass would be located on fill to reduce or eliminate this dip. Further north, the bypass would be elevated on fill and would cross over Antelope Road and Avenue G on structures. North of Avenue G, the bypass would be located on a structure.

After crossing over Avenue H, the bypass would curve east, return to grade, and use the Dutton Road right-of-way. The bypass would terminate in an interchange with existing OR 62 in the vicinity of the existing intersection of OR 62 and Dutton Road. The interchange would allow northbound bypass traffic to continue north on OR 62 but not south on OR 62 (see Figure 2-8). Southbound OR 62 traffic could either curve west onto the bypass (southbound) or take a ramp over the bypass and continue south on existing OR 62 through White City. Northbound traffic on existing OR 62 could only continue north on OR 62. This lack of a full range of movements may require a design exception.

Bicyclists would be permitted to use the shoulders of the proposed bypass.

Figure 2-7: Proposed Directional Interchange near OR 62 and Agate Road

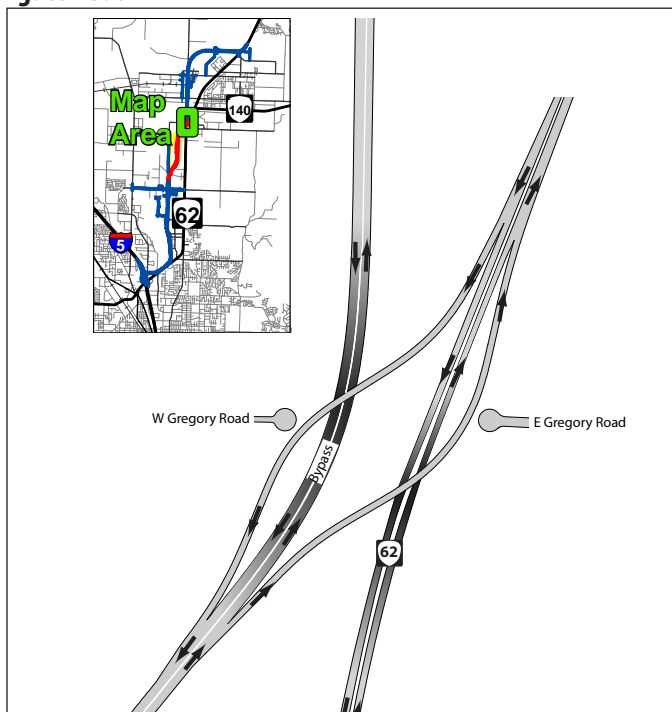


Figure 2-8: Proposed Interchange near Dutton Road

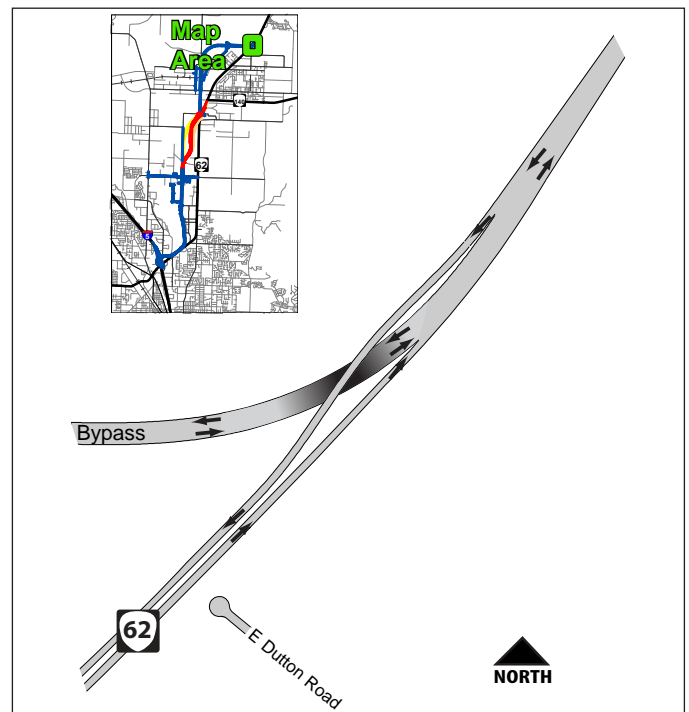


Figure 2-6

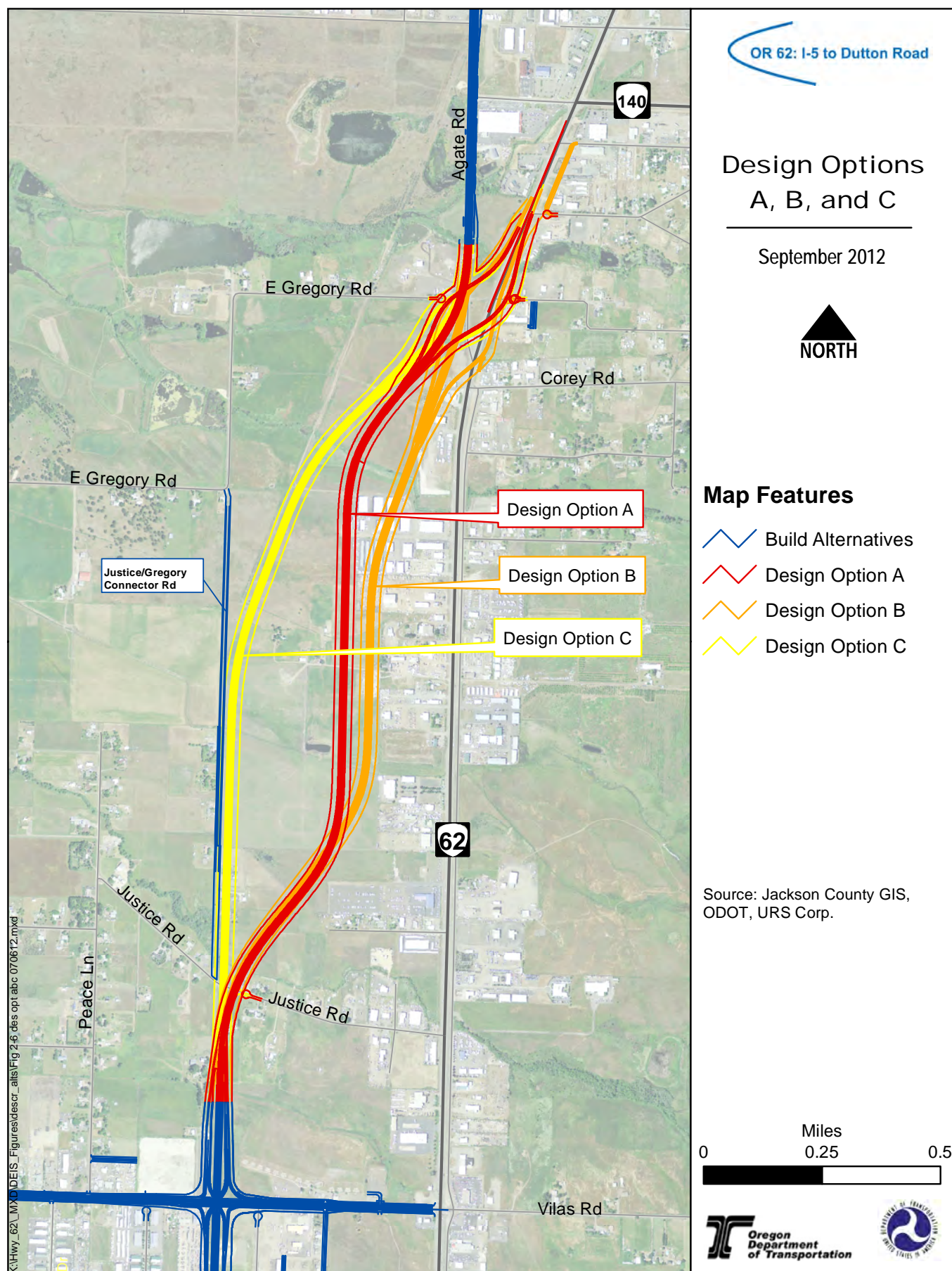
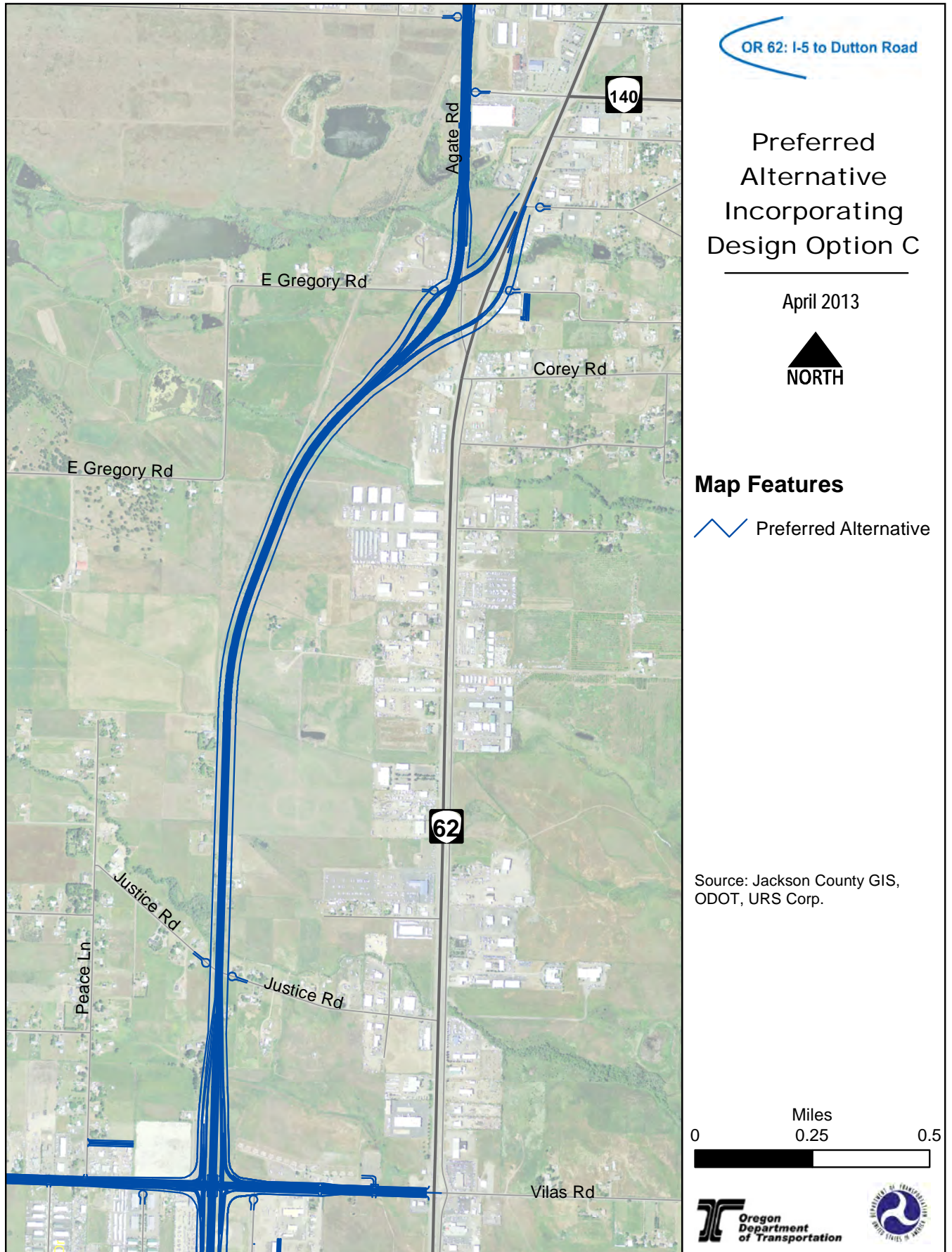


Figure 2-6 FEIS



Local Street Modifications

The two build alternatives would include modifications to the local street network. In addition to those modifications described above, there would be modifications common to both build alternatives.

Rogue Valley International-Medford Airport Vicinity

The local street modifications for the Rogue Valley International-Medford Airport Vicinity are depicted on Index Sheets 3, 4 and 5 of Figure 2-4. The Medford Airport has an internal circulation road around its perimeter. In places where the bypass would use some of the airport right-of-way, this road would be realigned, with the new alignment located as close to the original alignment as possible.

Commerce Drive and Coker Butte Road would each terminate in a cul-de-sac at the bypass. The cluster of buildings on the east side of the airport, including the United States Citizenship and Immigration Services (USCIS) facility, would be provided with a new access route. This new route would connect to Airway Drive, a short street that extends south from Vilas Road just west of the proposed bypass. At the southern terminus of Airway Drive, a new east-west street approximately 400 feet long would be built, extending east from Airway Drive. This new street would then turn south for approximately 2,500 feet, then east for approximately 1,500 feet, then south to connect to the USCIS facility and other buildings. The new street would follow existing property boundaries.

As described in Section 2.1.2.1, the means of access to the USCIS facility and other buildings on the east side of the airport has been changed since publication of the DEIS. Commerce Drive will not terminate at the bypass. The bypass will be elevated and cross over Commerce Drive on a structure. Commerce Drive will continue under the bypass and connect to an approach road serving the USCIS facility and other buildings. See Index Sheet 3 FEIS of Figure 2-4. The street extending east from Airway Drive then south to the USCIS facility and other buildings has been eliminated from the project and will not be built because it will no longer be necessary for USCIS facility access. See Index Sheets 3 FEIS, 4 FEIS, 5 FEIS, and 6 FEIS of Figure 2-4.

Vilas Road Vicinity

The local street modifications for the Vilas Road Vicinity are depicted on Index Sheets 5 through 9 of Figure 2-4. The proposed modifications to Vilas Road would be required as a result of the construction and operation of a SPUI at the intersection of the OR 62 Bypass and Vilas Road. Traffic forecasts indicate that in approximately 2030, the operation of the SPUI would trigger the need for the Vilas Road improvements. Vilas Road would be widened from its current three-lane cross section (one lane in each direction, plus a center turn lane) to five lanes between existing OR 62 and Table Rock Road. On Vilas Road near the proposed interchange, some driveways would be closed and moved to nearby existing or new local streets. Enterprise Drive would be extended to the east, Helo Drive would terminate in a cul-de-sac at Vilas Road, and a new local street would be built connecting the east end of Helicopter Way to Vilas Road. These changes are shown on Index Sheets 5 and 6. These local street modifications and improvements to Vilas Road would all include construction of sidewalks and on-street bicycle lanes.

The SPUI design at the Vilas Road interchange has been replaced by a tight diamond design to reduce project cost. The change in interchange type will not alter the need for modifications to Vilas Road, as described in the preceding paragraph.

As part of the Preferred Alternative, a gap in Enterprise Drive between Industry Drive and Airway Drive will be filled to provide access for several properties that will no longer have a roadway connection to Vilas Road via Industry Drive. See Map Set Sheet 6 and Map Set Sheet 6 FEIS of Figure 2-4.

On the east side of the bypass, Justice Road would terminate in a cul-de-sac, while on the west side, a new local road, referred to as the Justice/Gregory connector road, would be built to connect Justice Road with Gregory Road to the north. These changes are shown on Index Sheets 7A, B, and C and 8A, B, and C. This new local road would be located on the Medco Haul Road alignment under Design Options A and B, or directly adjacent to the bypass under Design Option C (slightly west of the Medco Haul Road alignment). Gregory Road would terminate in a cul-de-sac just west of its current intersection with Agate Road, and would also terminate in a cul-de-sac just east of its current intersection with existing OR 62. These changes are shown on Index Sheets 9A, B, and C.

The Justice/Gregory connector road has been eliminated from the project to reduce project cost and will not be built. ODOT will install gates to allow emergency vehicle access between the bypass and the Justice Road cul-de-sacs on both sides of the bypass to improve emergency response times. See Index Sheets 7C FEIS and 8C FEIS of Figure 2-4.

White City Industrial Area

The local street modifications for the White City Industrial Area are depicted on Index Sheets 9 through 13 of Figure 2-4. From the Agate Road interchange to Avenue G, the bypass would follow the alignment of Agate Road, displacing Agate Road between its intersection with existing OR 62 and its intersection with Avenue G. Antelope Road currently intersects with Agate Road; under both build alternatives, the bypass would cross over the top of Antelope Road on a structure. Leigh Way and Avenue A also currently intersect with Agate Road; under both build alternatives, they would both terminate at the bypass. Between Antelope Road and Avenue G, unpaved 11th Street would be improved to Jackson County standards. From Avenue G south, 14th Street would also be improved to Jackson County standards and would be extended south of Avenue F. Portions of Avenues F and G adjacent to the intersections with 11th and 14th Streets also would be improved. These changes are shown on Index Sheets 10 and 11 of Figure 2-4.

From Avenue G north, the bypass would be located on a structure above Agate Road that crosses over both Avenue G and Avenue H. The structure would end north of Avenue H, where the bypass would begin to curve east on fill. Agate Road would extend north from Avenue G as a local road under the structure, with intersections with both Avenue G and Avenue H.

Dutton Road Area

The local street modifications for the Dutton Road Area are depicted on Index Sheets 12 and 13 of Figure 2-4. The bypass would be built on the current West Dutton Road right-of-way. West Dutton Road would be realigned to the north. West Dutton Road would connect to a new local road located along the west and northwest edge of the VA SORCC property lines as shown on Index Sheet 12 of Figure 2-4. That new road would intersect with Avenue G. At Avenue G, the road would head straight north along the western edge of the VA SORCC and would follow the property line as it turns northeast. It would then turn north and cross over the top of the bypass, turn east, return to grade, and be located adjacent to the north side of the bypass. Driveways that currently connect with West Dutton Road would connect to this new local road. East Dutton Road currently intersects with OR 62 close to the proposed interchange. East Dutton Road would instead terminate in a cul-de-sac at OR 62. There are some residential driveways that currently connect to the east side of OR 62 in the vicinity of the proposed interchange. Those driveways would be moved and a new local road would be built from the residences to East Dutton Road.

2.1.3 Transportation System Management, Transportation Demand Management, and Mass Transit Alternatives

ODOT examined whether the identified transportation need could be met through alternative transportation strategies involving one or a combination of transportation system management (TSM), transportation demand management (TDM) measures, and a mass transit alternative.

ODOT considered TSM measures involving improved access management, improved signalization and turning movements, and an alternative intersection design. These included limiting all driveways providing direct access to OR 62 to right-in/right-out turns. ODOT also evaluated the use of the continuous flow design at the intersection of OR 62 and Vilas Road, optimization of traffic signal timing, and modifying turn lanes by restriping or channelizing turns. ODOT also considered a TDM, which was to expand the RVTD's Way to Go program, which encourages alternatives to travel by single occupant automobile through a variety of means.

ODOT also examined replacing the RVTD's existing Route 60 with an express bus on OR 62 and two local routes. Instead of two busses per hour between 5:00 AM and 6:30 PM on weekdays, the express bus would operate between downtown Medford and Eagle Point at 15-minute intervals during peak periods and 30-minute intervals during non-peak periods and at 30-minute intervals on Saturdays and Sundays. The express bus system would include three park-and-ride lots, as well as queue-bypass lanes at key intersections. The express feature, increased frequency of service and queue-bypass features would reduce transit travel times while the two new routes would expand transit access.

ODOT compared the performance of each of these strategies to the applicable highway mobility standards in the OHP, based on 2035 traffic projections. The comparison found that, individually, none of these measures could comply with ODOT highway mobility performance standards as measured at any of nine identified intersections along the OR 62 corridor, including all of the intersections within the JTA phase. ODOT further found that, when considered in combination, these measures were able to meet ODOT highway performance standards only at one of the nine identified intersections (Coker Butte Road). Based on this analysis, ODOT concluded that TSM measures, TDM measures, and mass transit alone could not meet the transportation need. However, ODOT will consider the incorporation of these measures, as appropriate, into the preferred alternative.

TSM measures ODOT incorporated into the Preferred Alternative are a southbound right-turn lane from existing OR 62 to Bullock Road and gates at the cul-de-sacs where Justice Road terminates on both the east and west sides of the bypass to allow emergency vehicles to enter or leave the bypass. TSM measure incorporated into the JTA phase, described in the next section, are at the northern and southern termini. At the northern terminus, TSM measures include:

- a northbound left-turn lane to access the bypass from existing OR 62
- removing the existing intersections of Gregory Road and Corey Road with OR 62 and replacing them with an intersection of Fowler Road and existing OR 62 to increase spacing between OR 62 intersections and reduce congestion between the north terminus intersection of the bypass with existing OR 62 and the intersection of OR 62 with OR 140
- realigning Crater Lake Avenue to increase the spacing between the intersections of Fowler Lane with Crater Lake Avenue and existing OR 62

At the southern terminus, the design of JTA phase includes providing for U-turns at the intersection of existing OR 62 with Poplar Drive and Bullock Road and consolidating business driveways. ODOT may consider implementing the additional TSM and TDM measures described in Appendix M, Recommendations for Transit and Non-Motorized Transportation, separately from the OR 62: I-5 to Dutton Road project.

TSM, TDM and Mass Transit

TSM reduces congestion by increasing roadway capacity. Road improvements can include changing the timing of traffic signals, adding turn lanes to intersections, adding bicycle lanes and sidewalks, implementing access management strategies, and improving roadway geometry.

TDM reduces congestion by reducing the number of trips. Trip reduction can be accomplished through a variety of measures, such as encouraging employers to allow telecommuting, implementing programs that encourage people to carpool or take transit, managing land uses to create walkable communities, and implementing congestion tolls.

Mass Transit refers to public transportation options such as buses and light rail.

2.1.4 JTA Phase

The 2009 JTA, HB 2001, included \$100 million in funding for construction of the OR 62 Project. The funds are insufficient to pay the entire cost of one of the build alternatives, so the JTA funding will be used for an initial phase. This EIS refers to the initial phase as the “JTA Phase.”

As stated in 2.1.2 above, ODOT has identified the SD Alternative with Design Option C as the recommended alternative. This EIS will be used to inform the selection of a preferred alternative; this process is described in greater detail in Section 2.5. The preferred alternative will either be the No Build Alternative, the SD Alternative, or the DI Alternative. If either of the build alternatives were selected as the preferred alternative, the JTA phase would be built first; the rest of the alternative would be built subsequently as funding is secured. Details about the timing, design, and extent of future phases have not yet been determined, but are dependent upon the availability of funding.

ODOT and FHWA have identified the SD Alternative with Design Option C as the Preferred Alternative. The JTA phase with Design Option C will be built first; the rest of the SD Alternative will be built subsequently as funding is secured.

The JTA phase begins at OR 62 near Bullock Road in Medford and terminates at the intersection of Agate Road and existing OR 62 in White City. The design for the JTA phase is detailed in the map set included in Figure 2-9.

The JTA phase would consist of a new, access-controlled four-lane bypass using the alignments proposed in the build alternatives. There are three possible alignments, which are the alignments of Design Options A, B and C. However, there is only one design for the southern terminus of the JTA phase: a grade separation with OR 62 in the vicinity of Whittle Avenue (see Index Sheets 1A and 1B of Figure 2-9). The SD Alternative with Option C has been identified by ODOT as the recommended alternative. If either of the two build alternatives were identified as the preferred alternative, in subsequent phases, the southern terminus would be modified to include all of the features of either the SD Alternative or the DI Alternative in this area. The design for the JTA phase’s south terminus does not preclude the selection of either of the two build alternatives.

The JTA phase’s south terminus directional interchange would allow for free-flowing movements between the proposed bypass and existing OR 62. Northbound vehicles on existing OR 62 could continue north on existing OR 62 or take the proposed bypass to travel north. Southbound vehicles on the proposed bypass would use a ramp to merge with existing OR 62 traffic to continue south on existing OR 62. Southbound vehicles on existing OR 62 would be allowed to make a U turn at Bullock Road to take the proposed bypass north and southbound vehicles on the bypass would be allowed to make a similar U turn and take existing OR 62 north.

Figure 2-9: JTA Phase Detailed Map Set Index

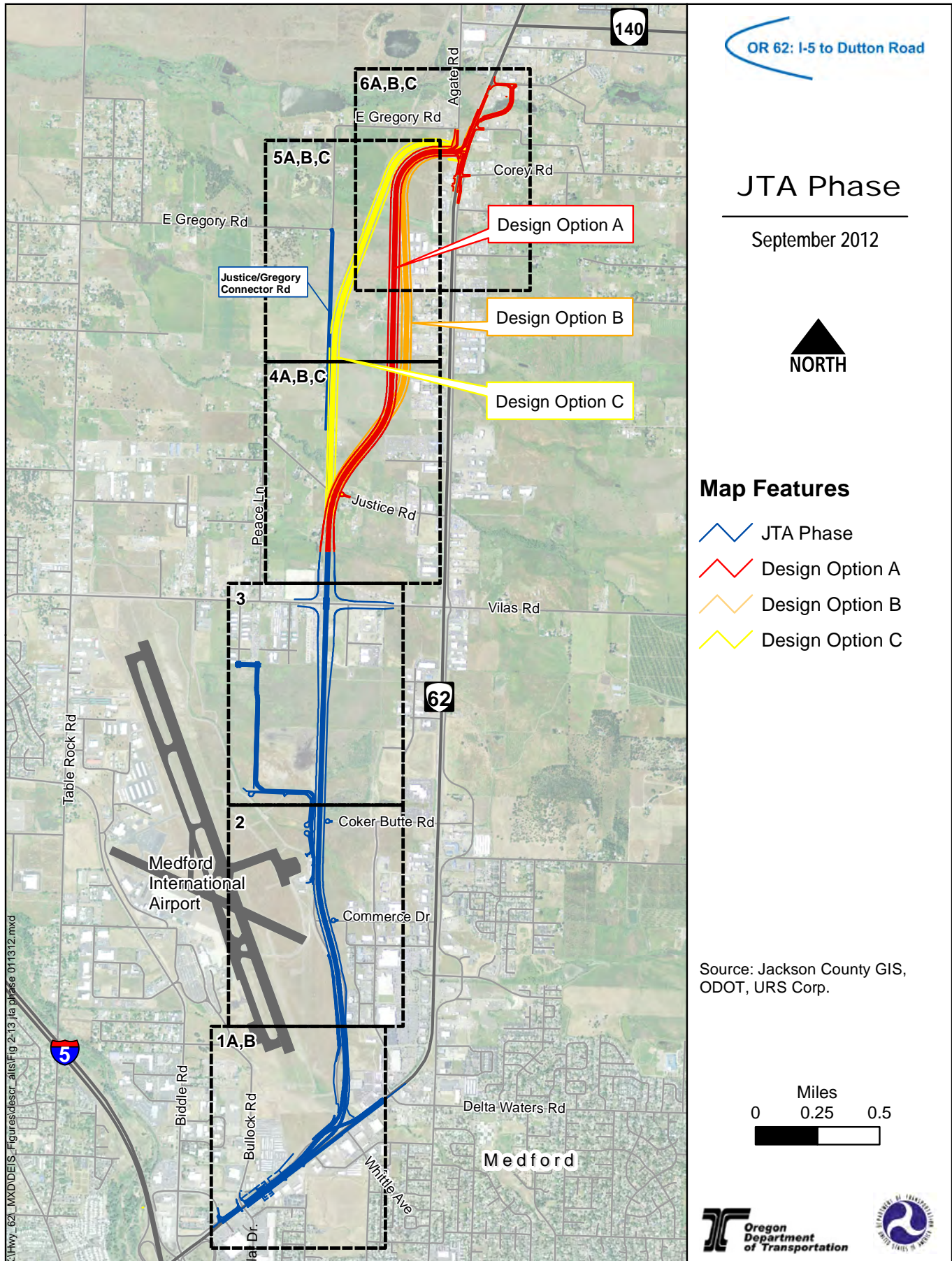


Figure 2-9 FEIS: JTA Phase Detailed Map Set Index

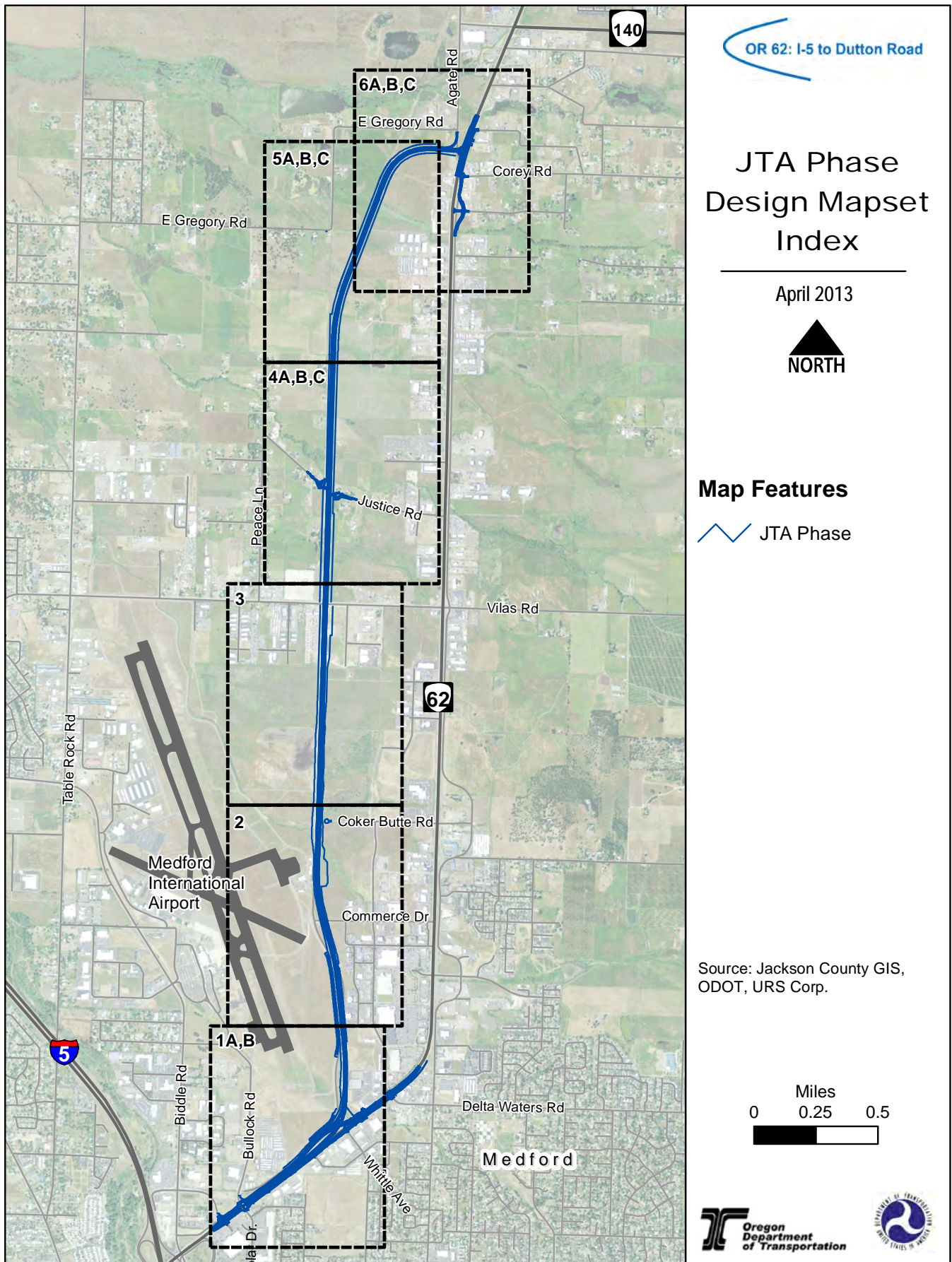


Figure 2-9: 1A of 6

OR 62 JTA Phase - Design Mapset

1A of 6

July 2012

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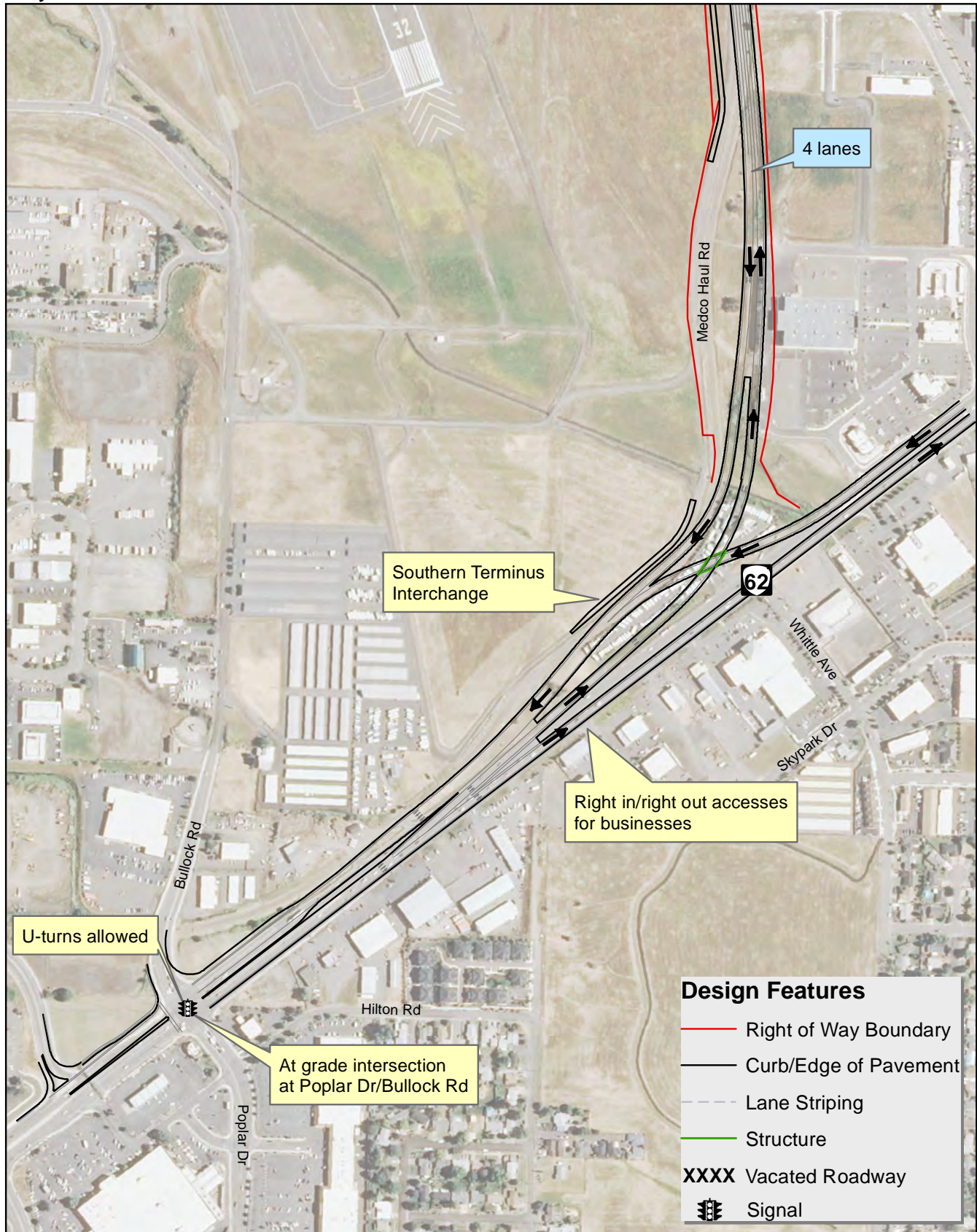


Figure 2-9: 1B of 6

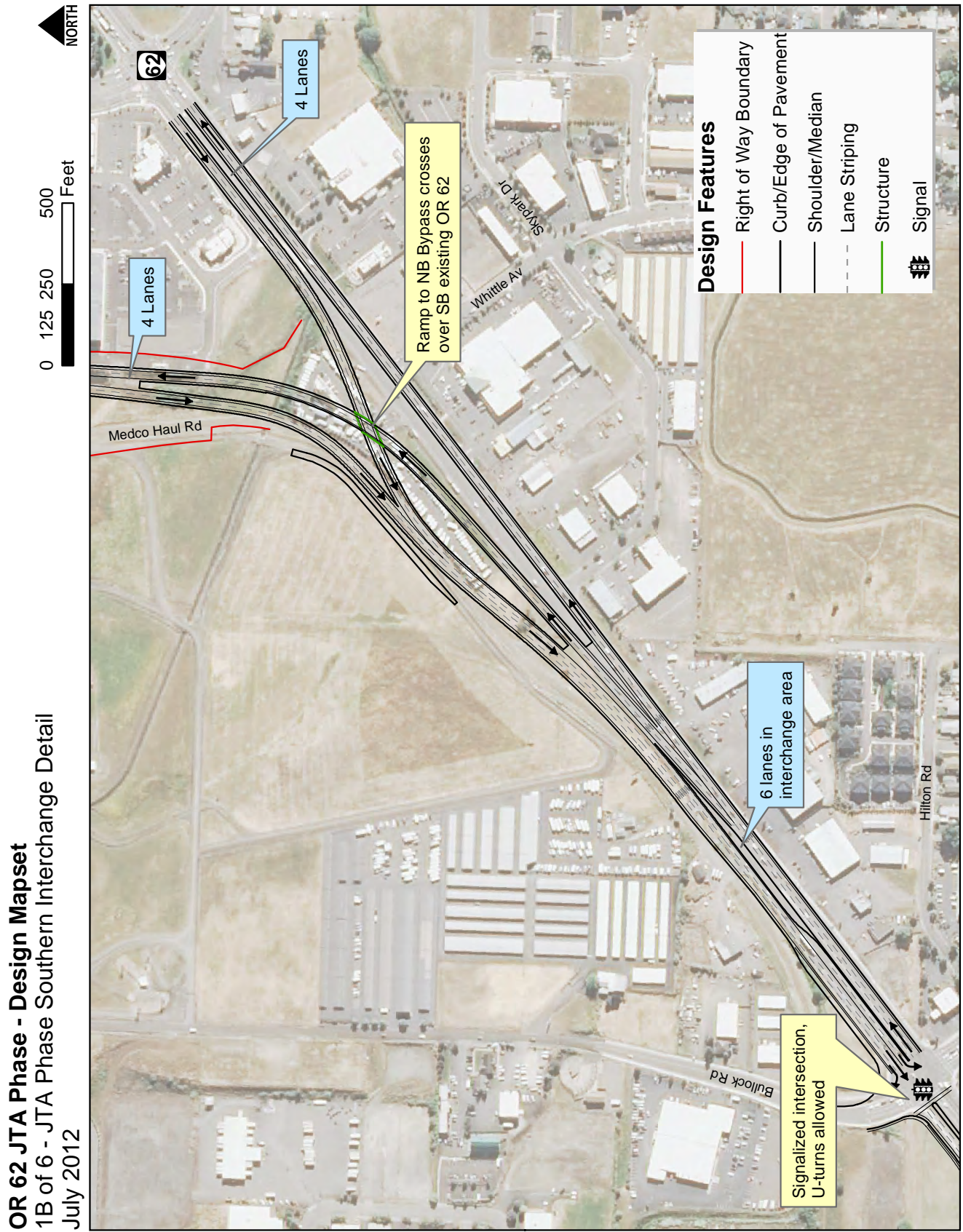


Figure 2-9: 2 of 6

OR 62 JTA Phase - Design Mapset

2 of 6

July 2012

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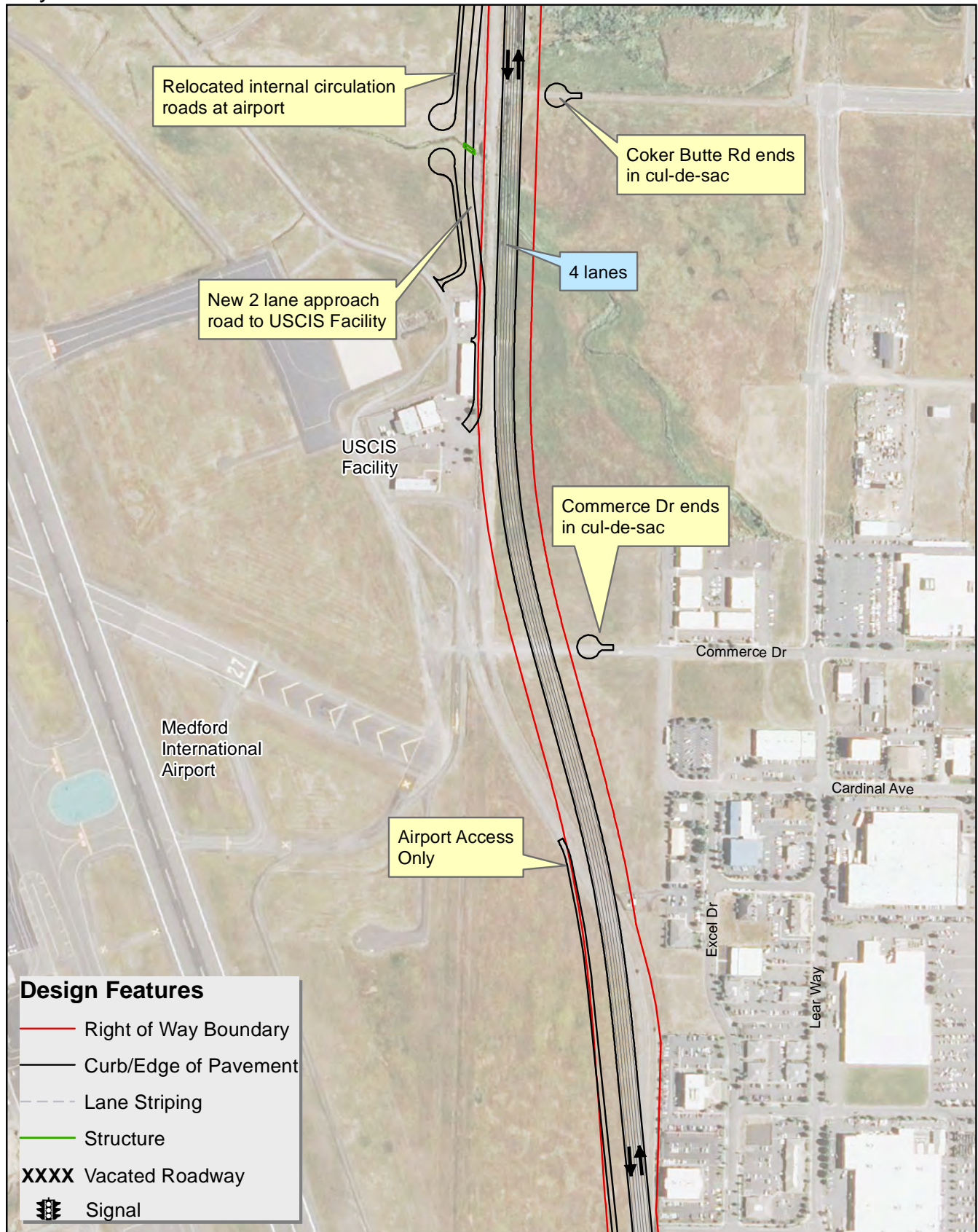


Figure 2-9: 2 FEIS of 6

OR 62 JTA Phase - Design Mapset

2 FEIS of 6

April 2013

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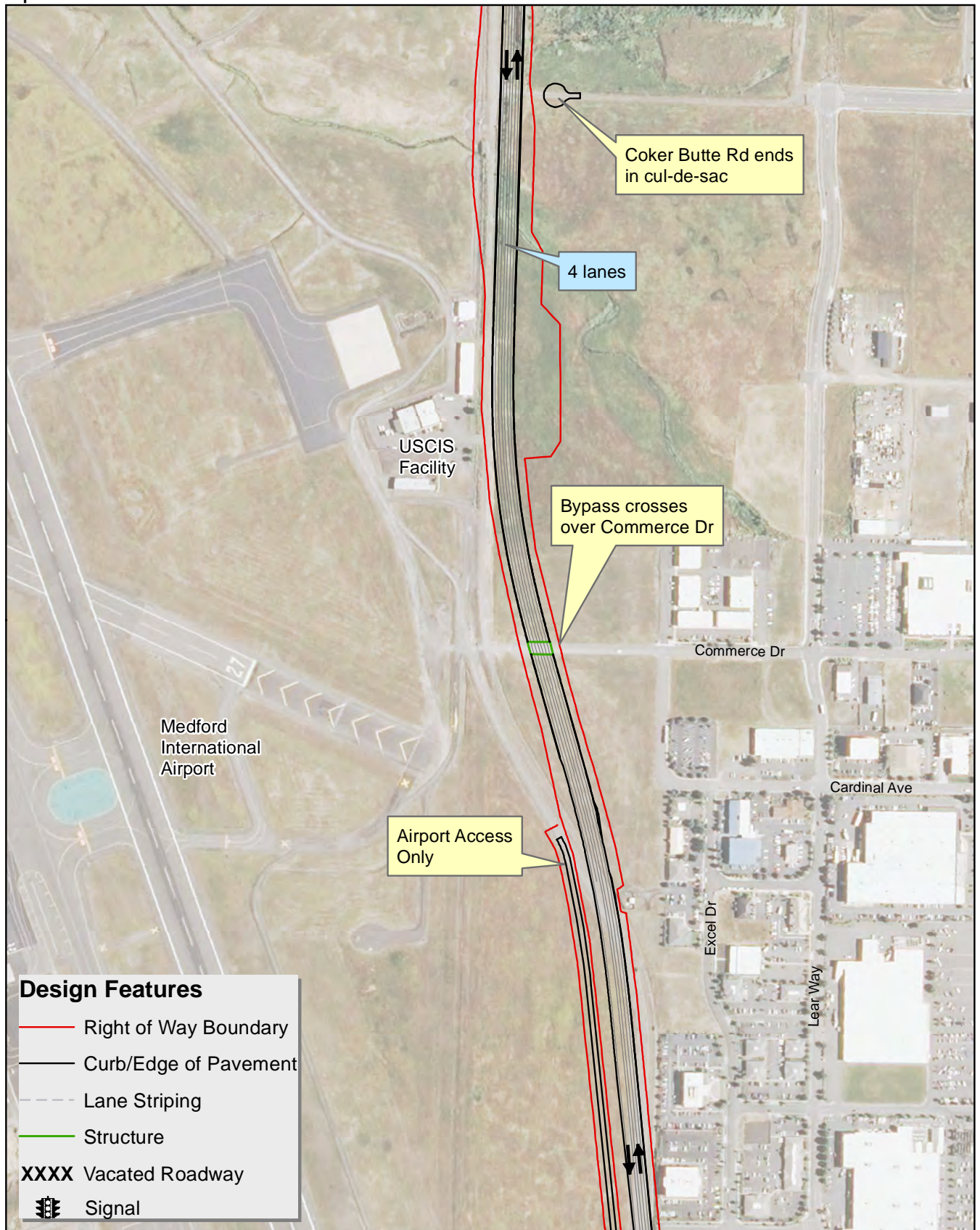


Figure 2-9: 3 of 6

OR 62 JTA Phase - Design Mapset

3 of 6

July 2012

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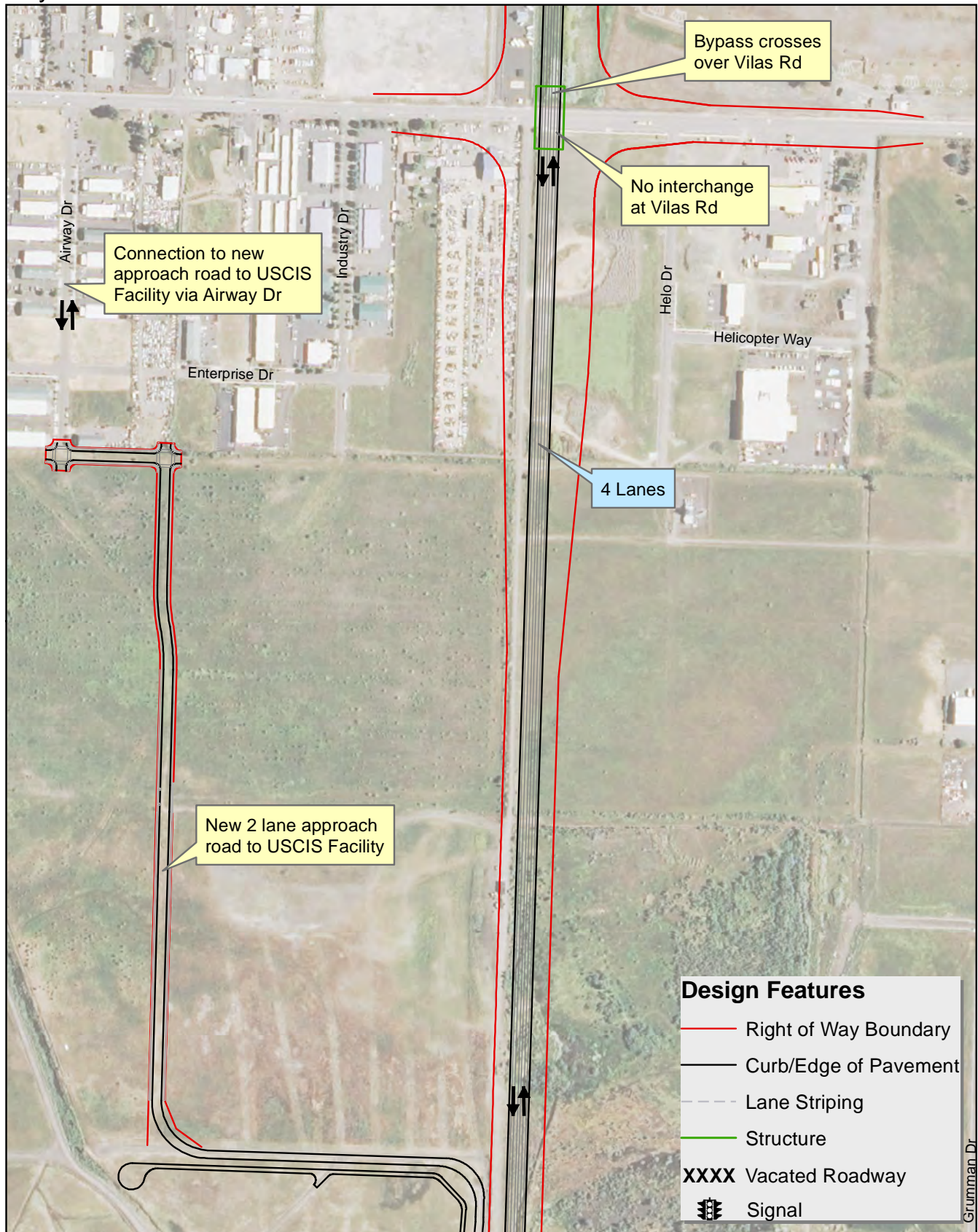


Figure 2-9: 3 FEIS of 6

OR 62 JTA Phase - Design Mapset

3 FEIS of 6

April 2013

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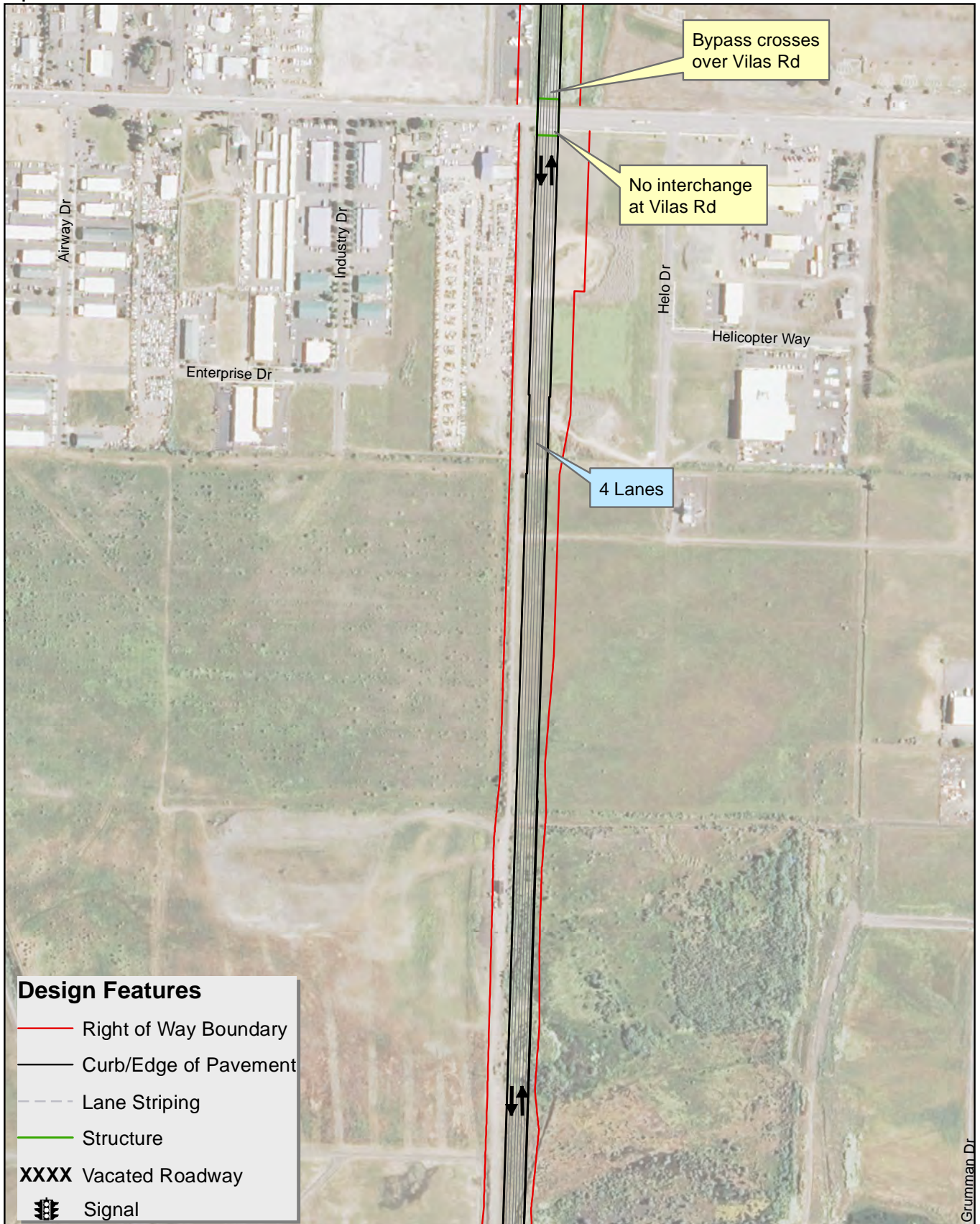


Figure 2-9: 4A of 6

OR 62 JTA Phase - Design Mapset

4A of 6 - JTA Option A

July 2012

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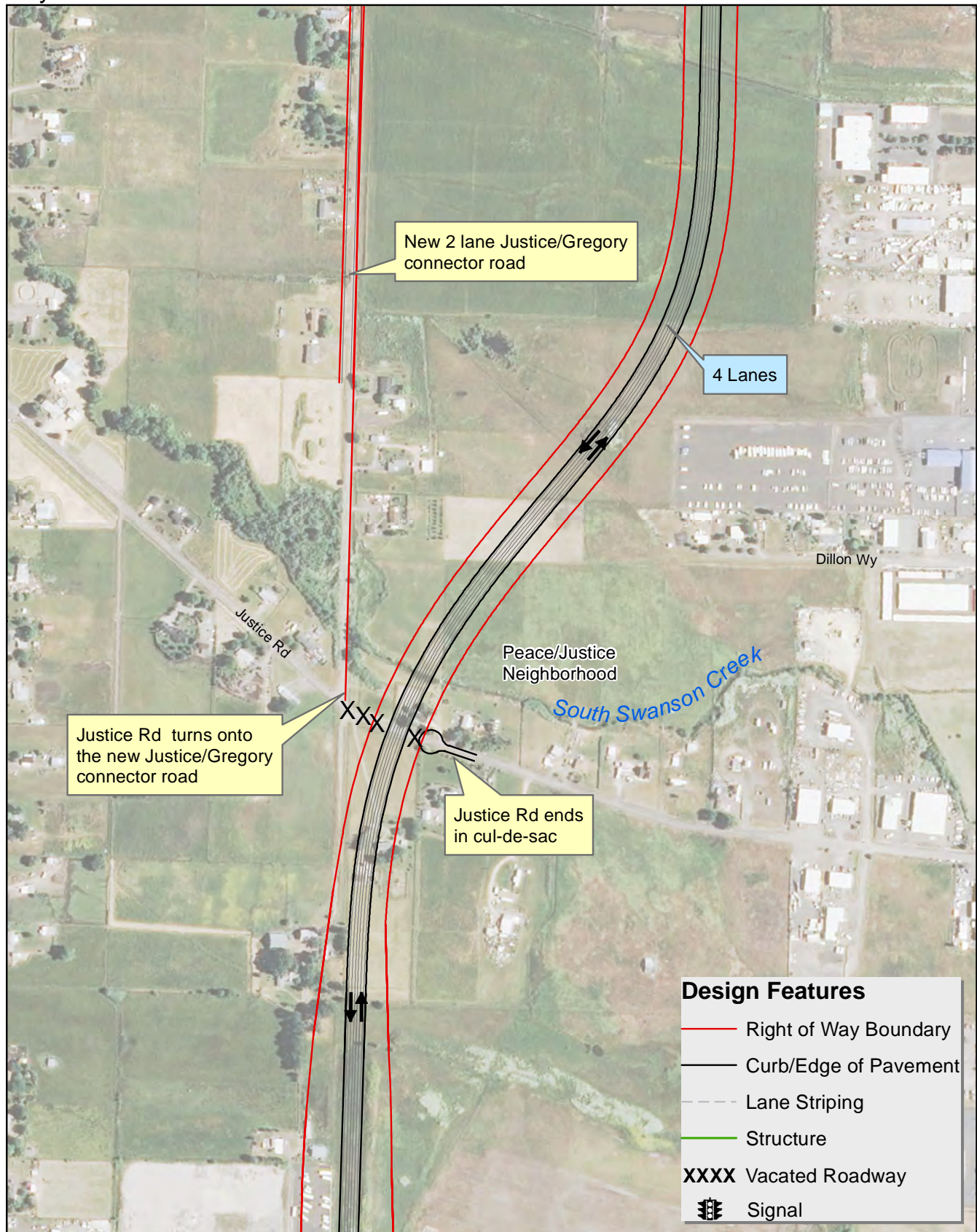


Figure 2-9: 4B of 6

OR 62 JTA Phase - Design Mapset

4B of 6 - JTA Option B

July 2012

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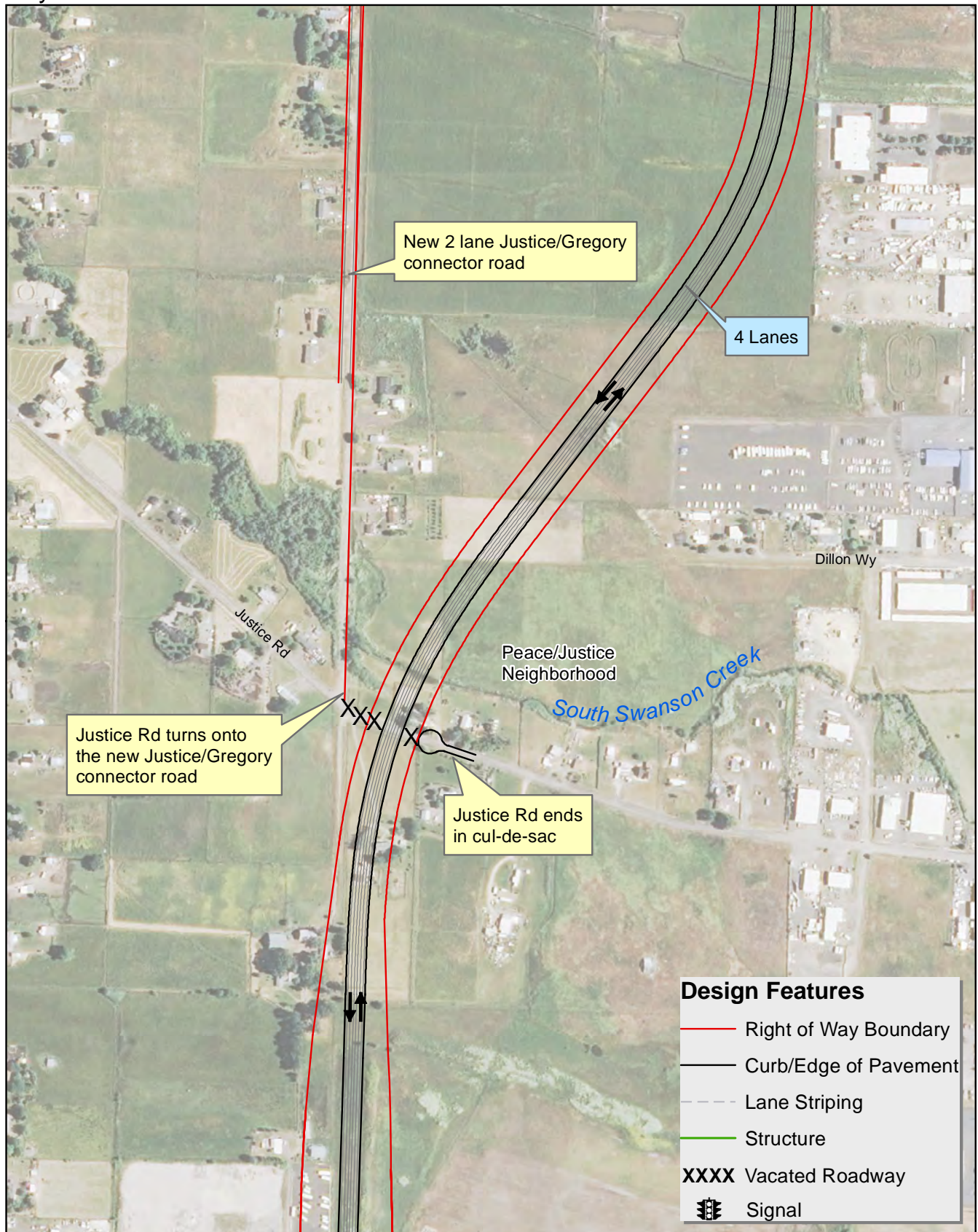


Figure 2-9: 4C of 6

OR 62 JTA Phase - Design Mapset

4C of 6 - JTA Option C

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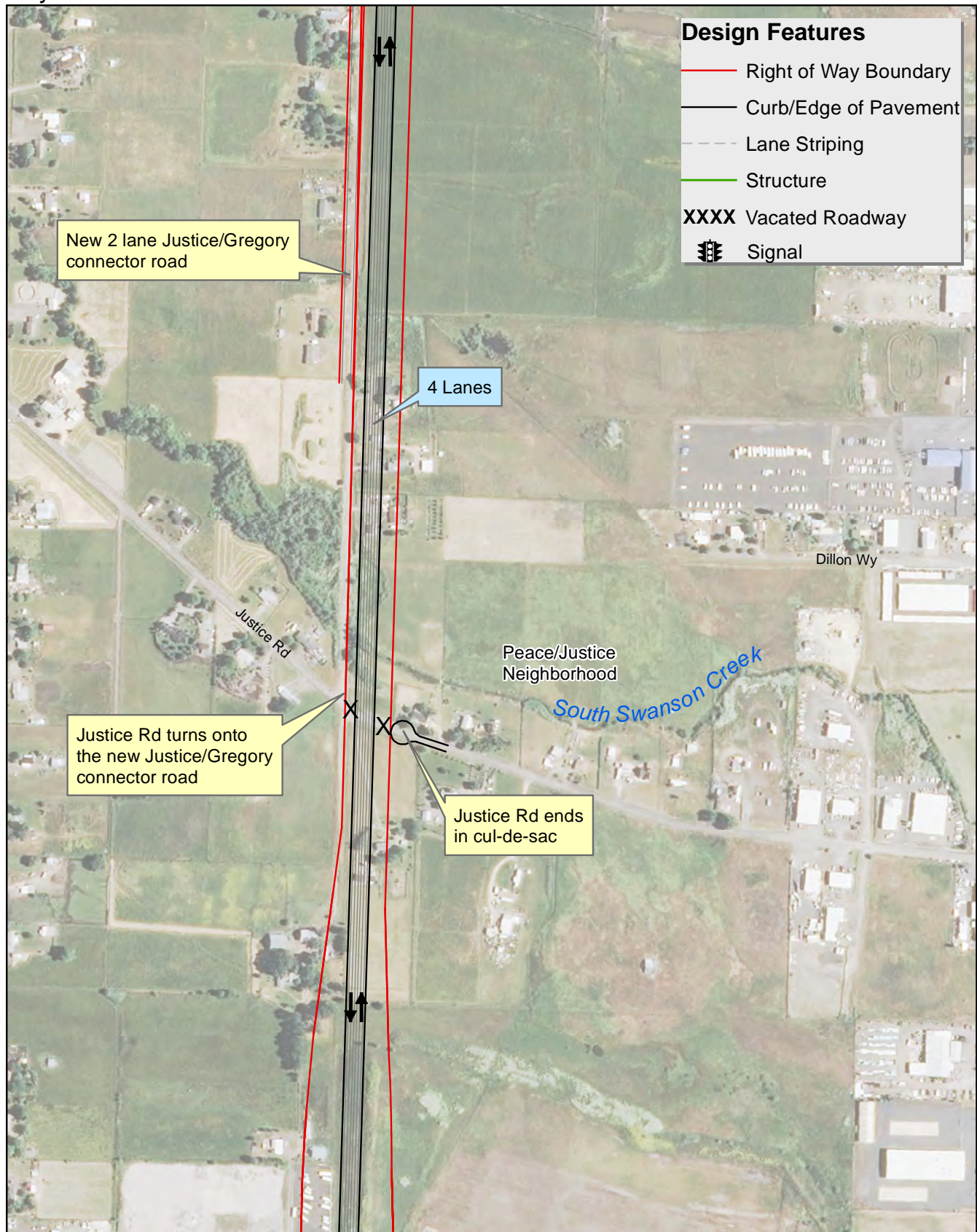


Figure 2-9: 4C FEIS of 6

OR 62 JTA Phase - Design Mapset

4C FEIS of 6

April 2013

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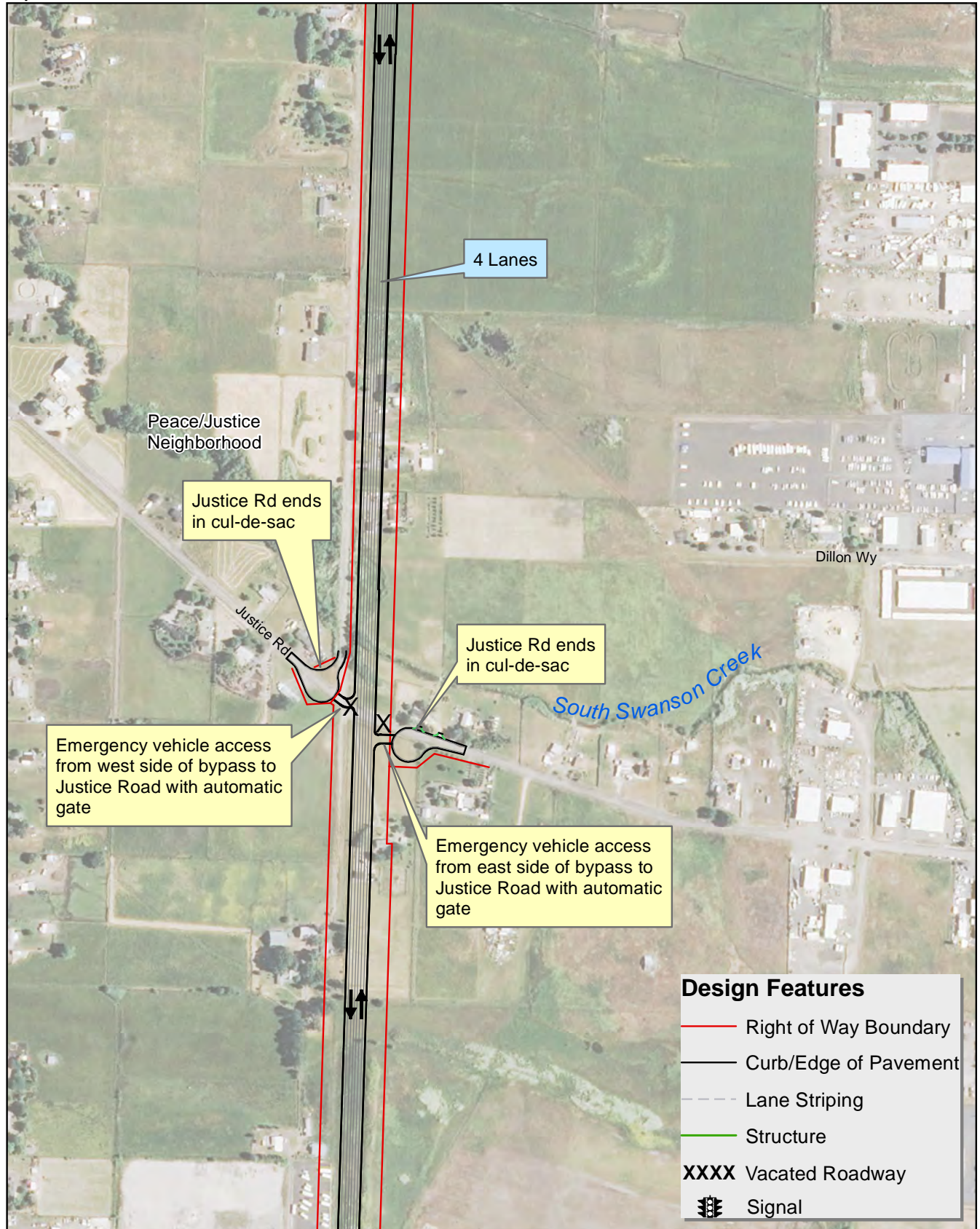


Figure 2-9: 5A of 6

OR 62 JTA Phase - Design Mapset

5A of 6 - JTA Option A

July 2012

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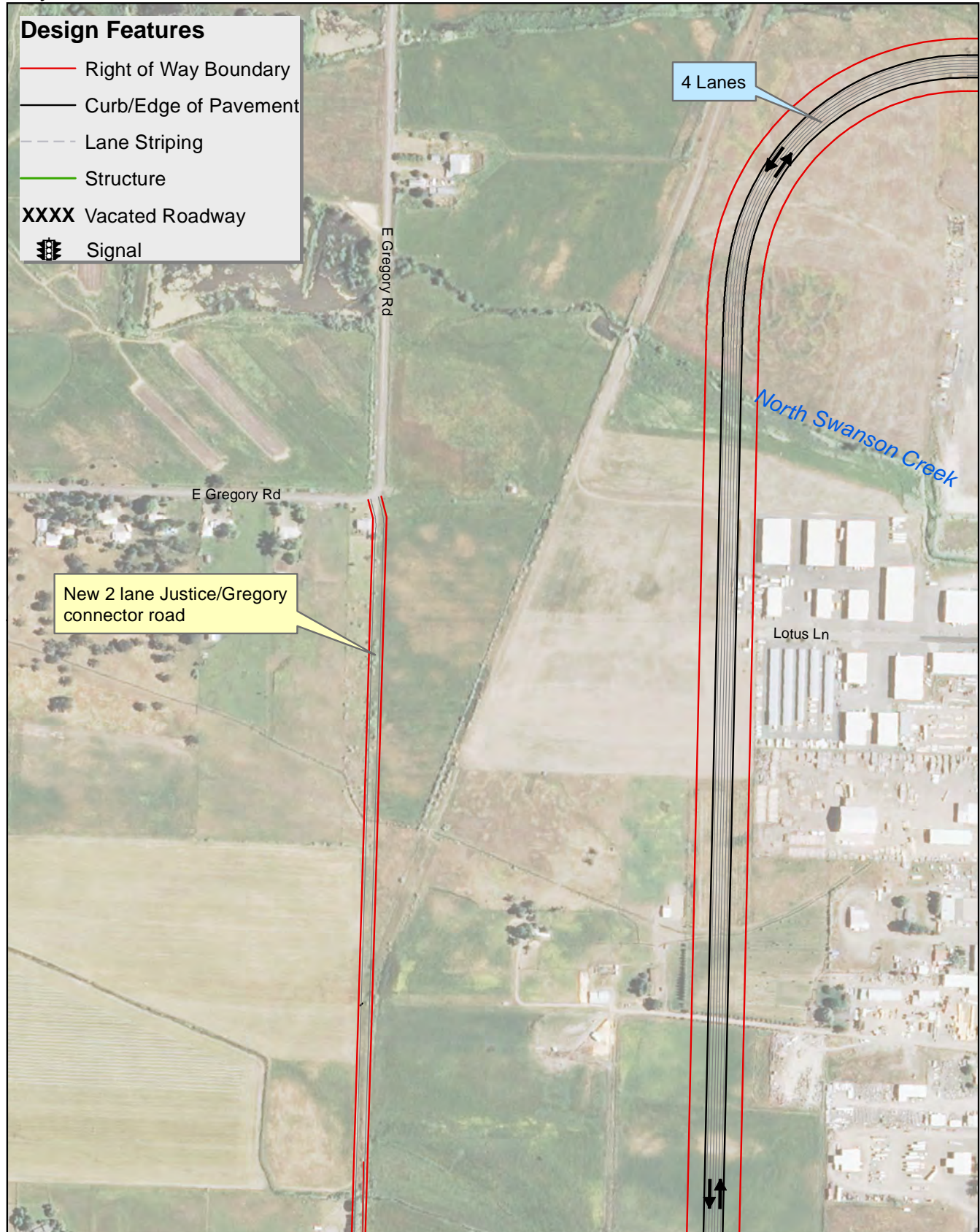


Figure 2-9: 5B of 6

OR 62 JTA Phase - Design Mapset

5B of 6 - JTA Option B

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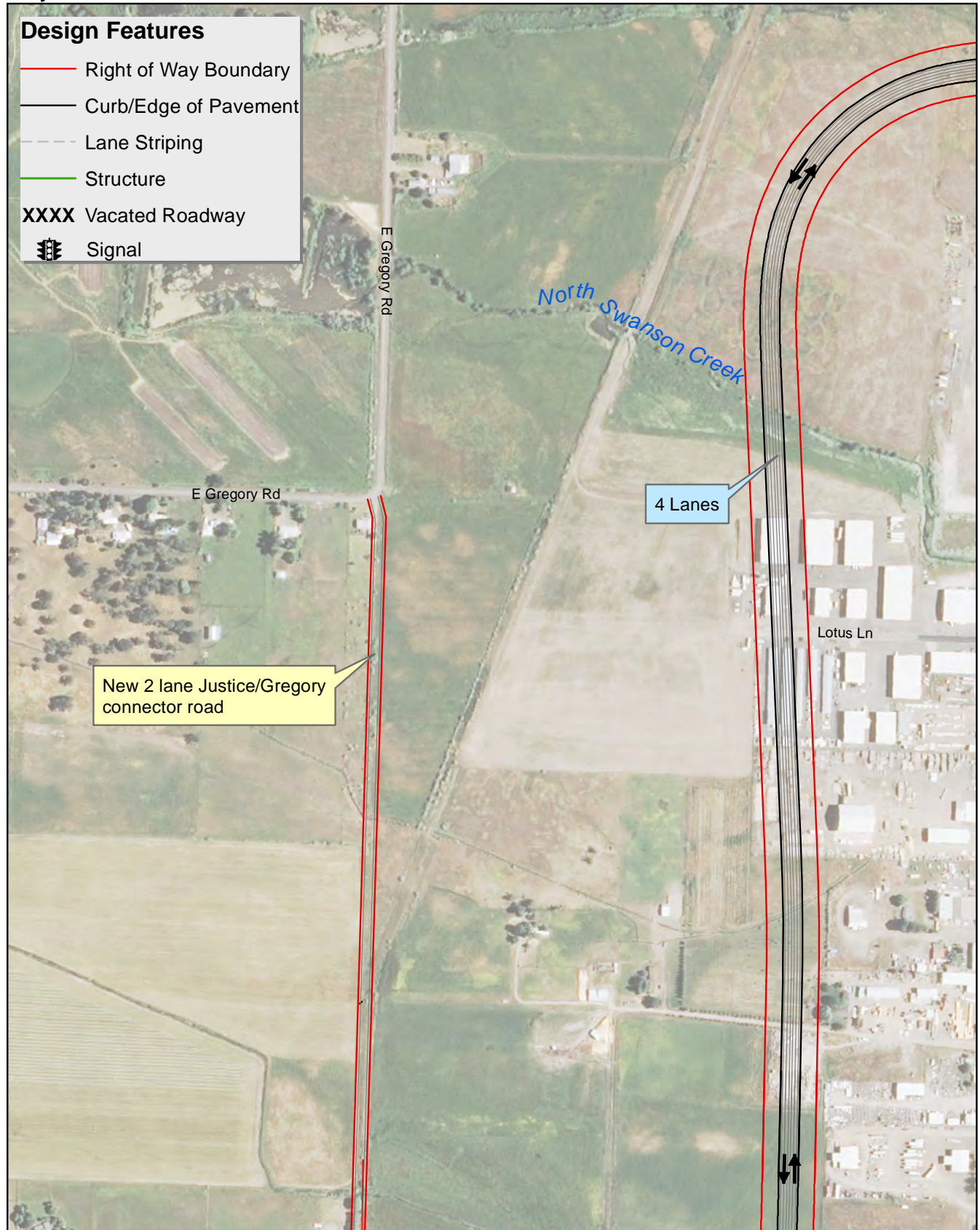


Figure 2-9: 5C of 6

OR 62 JTA Phase - Design Mapset

5C of 6 - JTA Option C

July 2012

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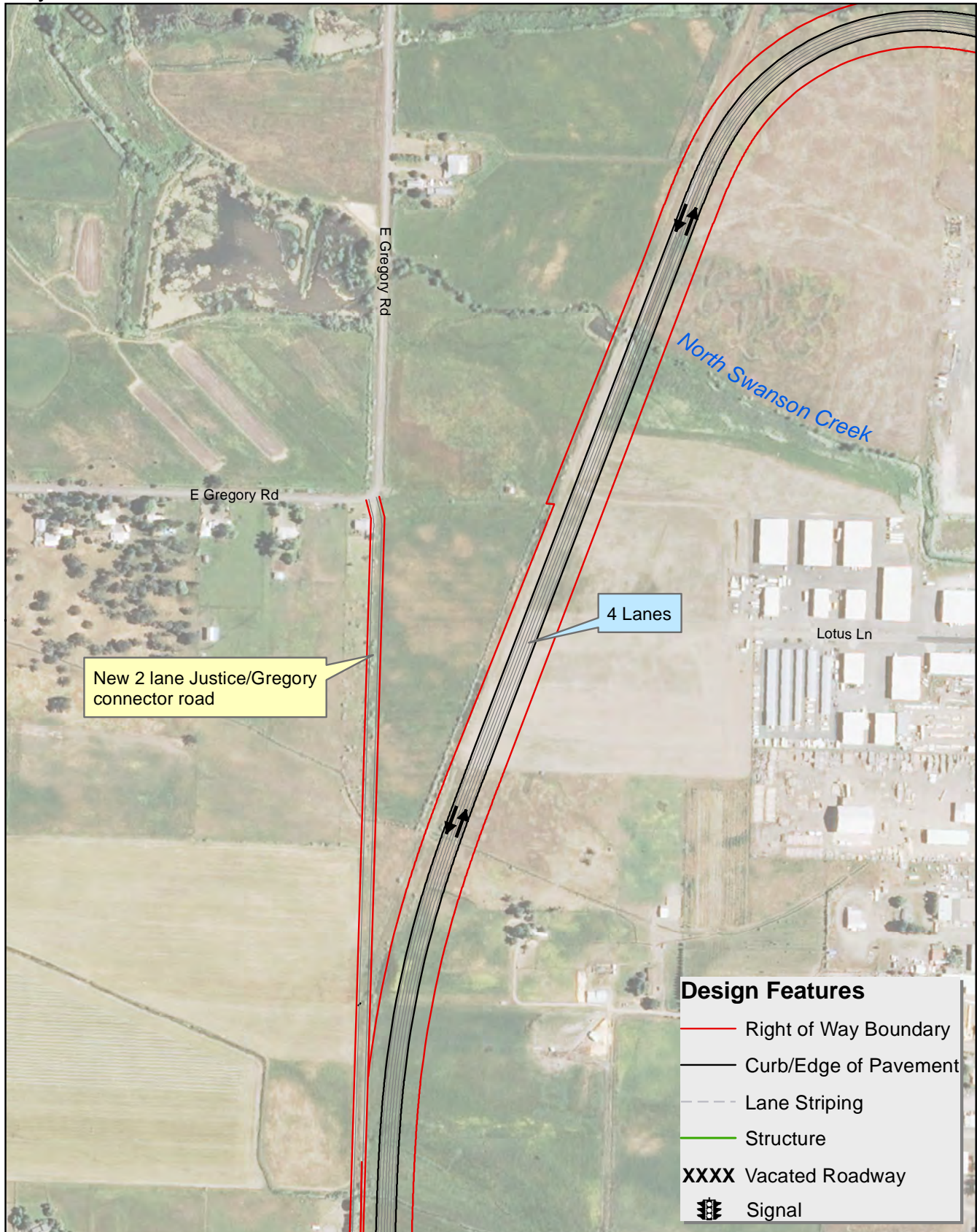


Figure 2-9: 5C FEIS of 6

OR 62 JTA Phase - Design Mapset

5C FEIS of 6

April 2013

0 250 500 1,000 Feet

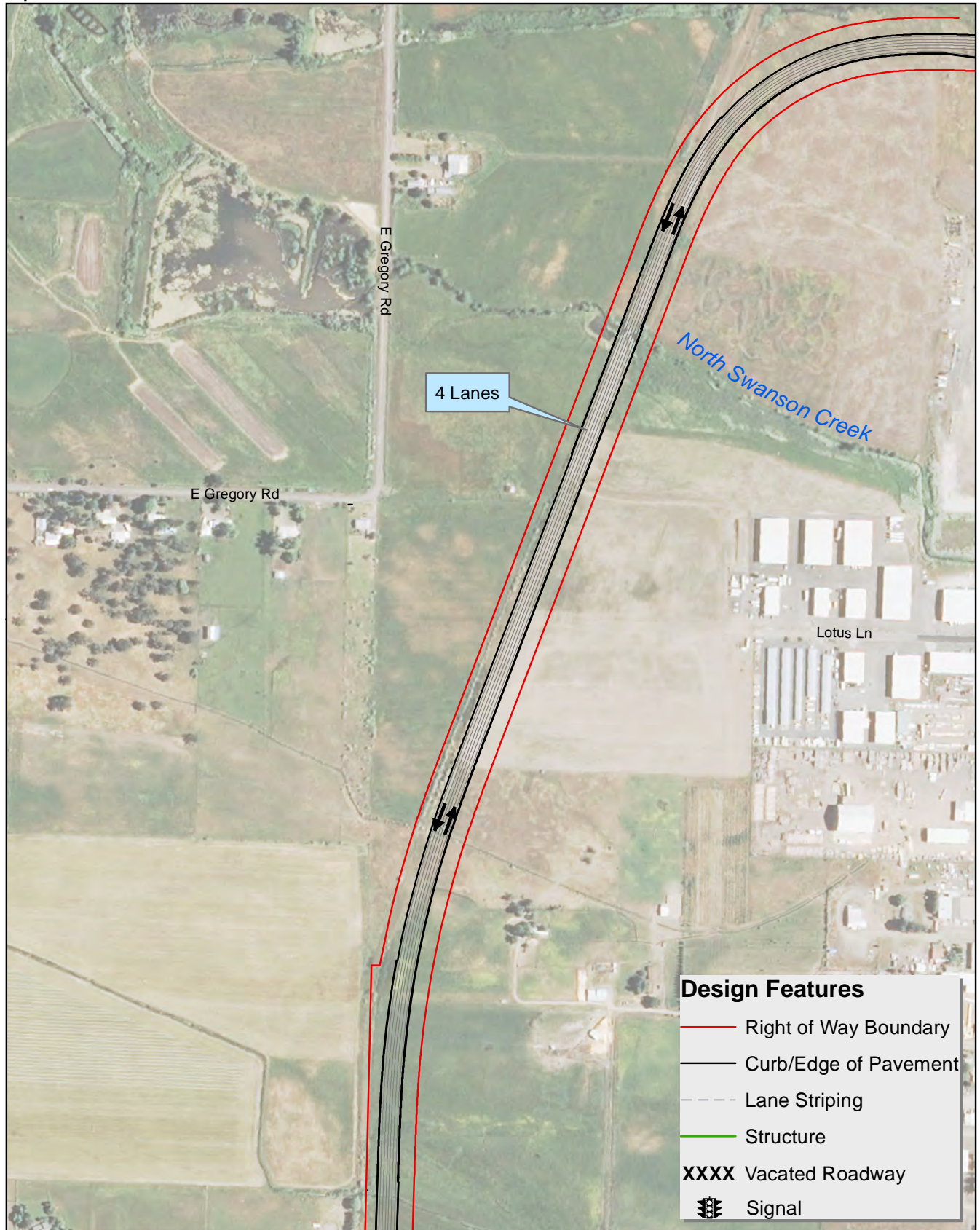


Figure 2-9: 6A of 6

OR 62 JTA Phase - Design Mapset

6A of 6 - JTA Option A

July 2012

0 250 500 1,000 Feet

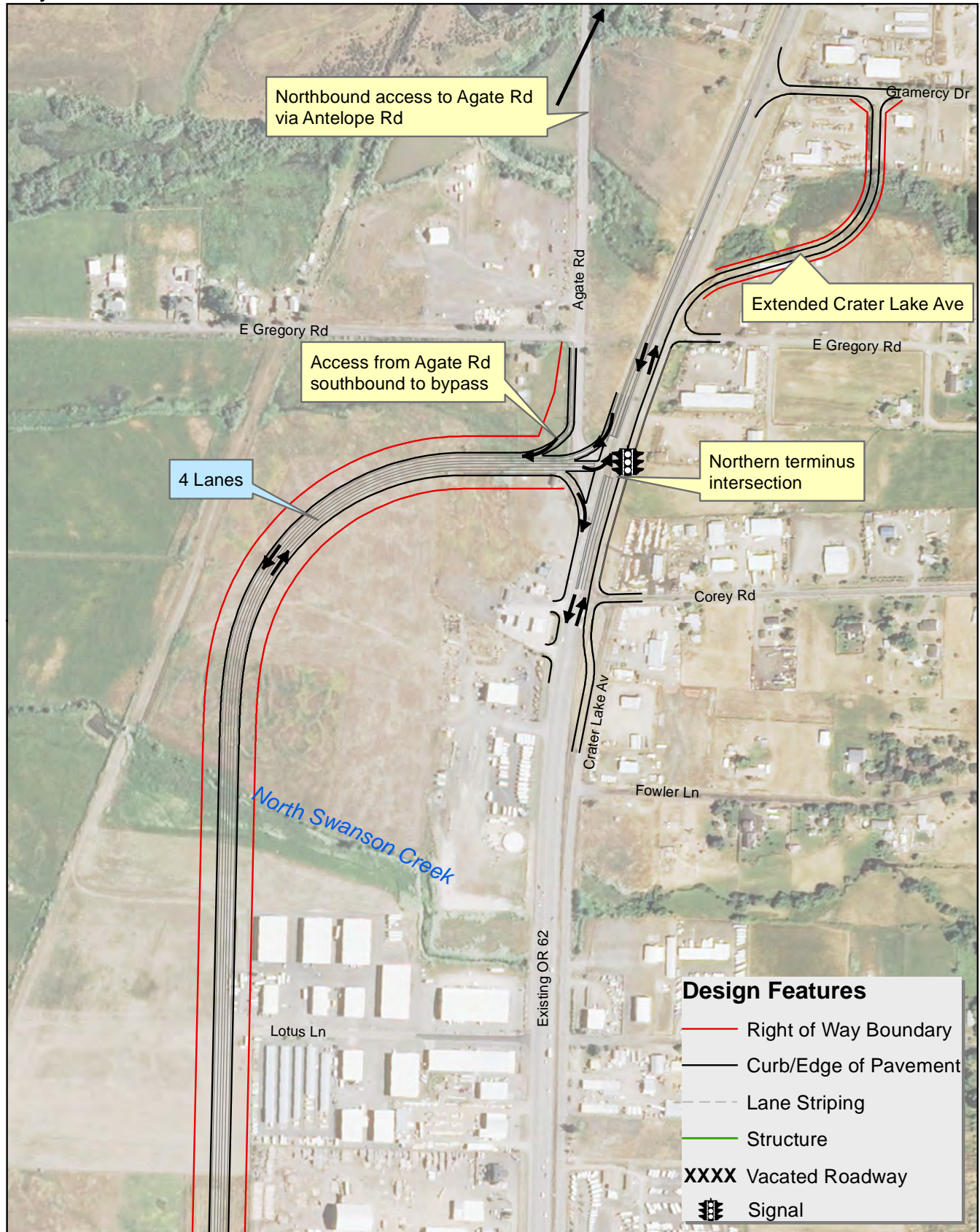


Figure 2-9: 6B of 6

OR 62 JTA Phase - Design Mapset

6B of 6 - JTA Option B

July 2012

0 250 500 1,000 Feet

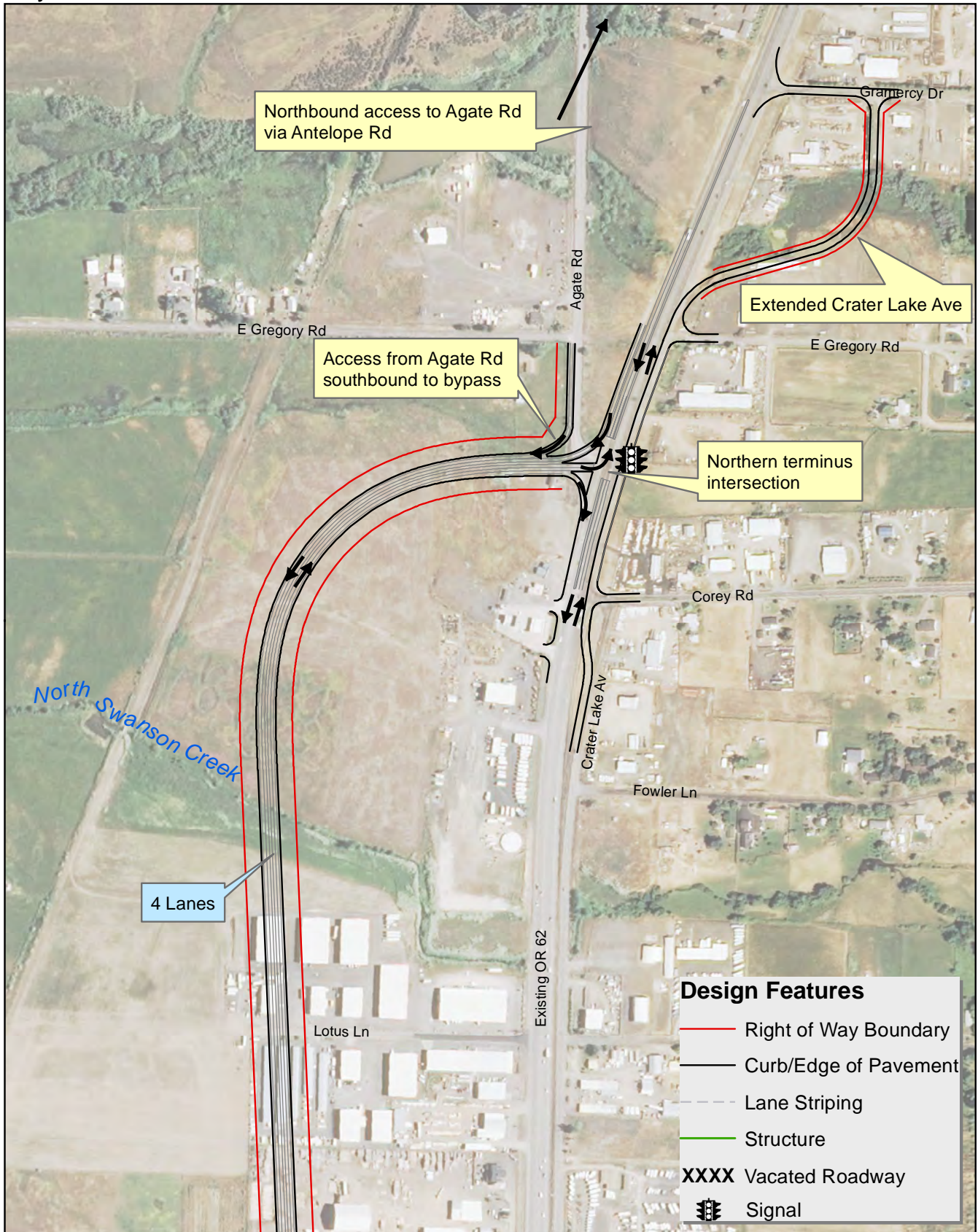


Figure 2-9: 6C of 6

OR 62 JTA Phase - Design Mapset

6C of 6 - JTA Option C

July 2012

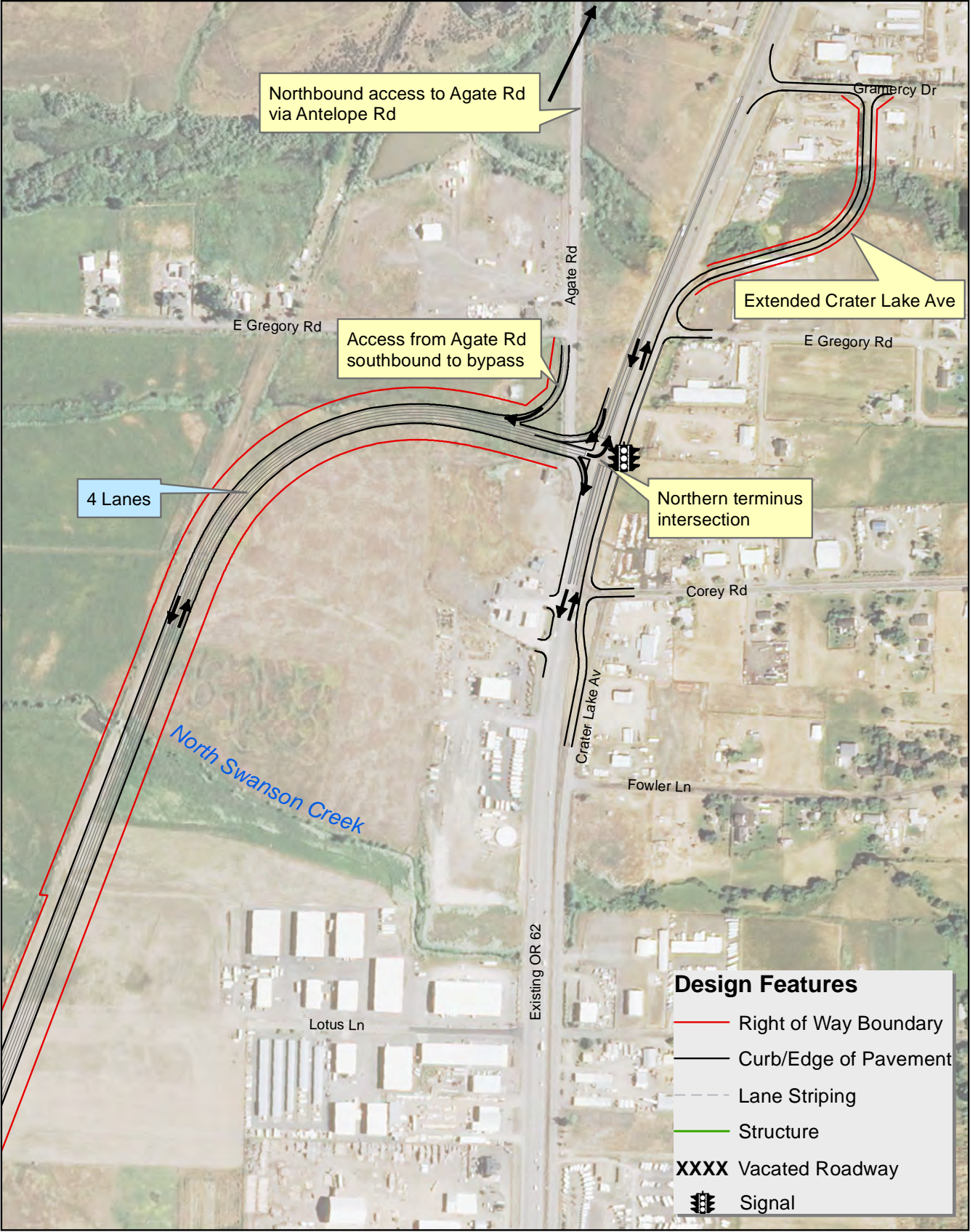
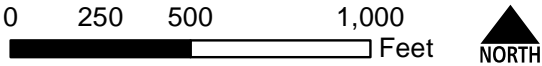
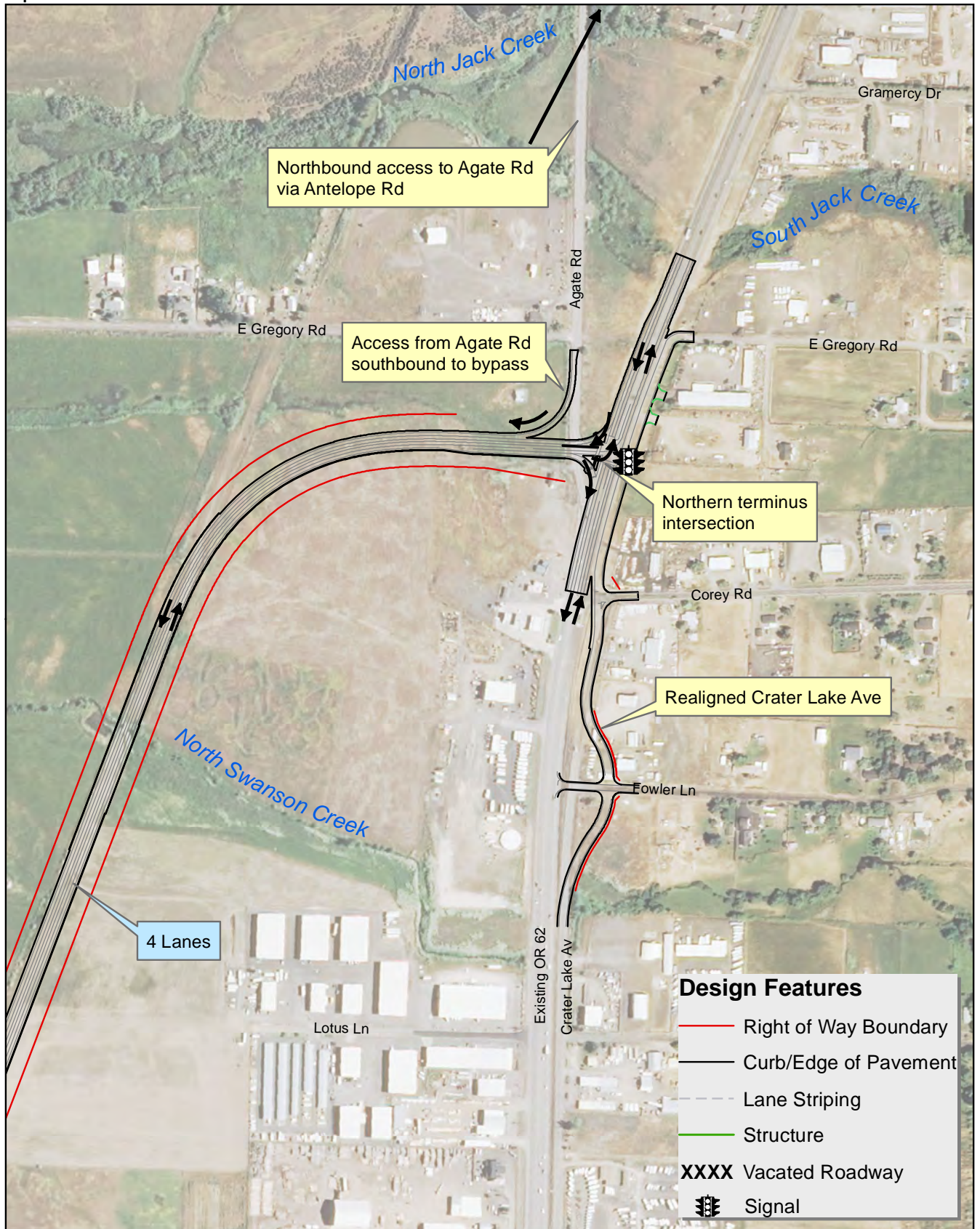
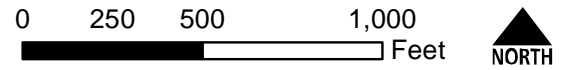


Figure 2-9: 6C FEIS of 6

OR 62 JTA Phase - Design Mapset
 6C FEIS of 6
 April 2013



The south terminus interchange design would require the modification of some driveways that currently connect directly to existing OR 62 between I-5 and Delta Waters Road. ODOT has developed a plan to consolidate or realign driveways to comply with ODOT's Access Management Strategy as shown in Figure 2-10. Unlike the south terminus design for the DI Alternative, the JTA phase design would not affect the existing intersection of OR 62 and Poplar Drive/Bullock Road. OR 62 and Poplar Drive/Bullock Road would remain an at-grade signalized intersection. There would be no local street modifications or extensions associated with the JTA phase in the south terminus area. U-turns would be allowed at existing OR 62 and Poplar/Bullock intersection to allow southbound traffic access to the businesses located on the east side of existing OR 62.

North of the proposed south terminus interchange, the bypass would follow the same alignment as both build alternatives, passing cul-de-sacs at Commerce Drive and Coker Butte Road at grade. A new local street would be built to allow access to the USCIS facility, as described for both build alternatives above.

As with the build alternatives (as described in Sections 2.1.2.1 and 2.1.2.3), the means of access to the USCIS facility and other buildings on the east side of the airport has been changed. The bypass will cross over Commerce Drive on an elevated structure. Commerce Drive will continue under the bypass and connect to an approach road serving the USCIS facility and other buildings as shown on Index Sheet 2 FEIS of Figure 2-9. The street extending east from Airway Drive then south to the USCIS facility and other buildings has been eliminated from the project and will not be built, as shown on Index Sheets 2 FEIS and 3 FEIS of Figure 2-9.

The JTA phase would cross over Vilas Road on an elevated structure, with no connection to Vilas Road. The JTA phase would not include any of the changes to local roads in the vicinity of Vilas Road (such as Helicopter Way, Helo Drive, Industry Drive, and Enterprise Drive) that would be made under the two build alternatives and would not include widening Vilas Road. Those changes to widen Vilas Road and other local road modifications would only be needed once the proposed interchange at Vilas Road is built. The proposed Vilas Road interchange is not included in the JTA phase. There would be no changes to existing driveways in the vicinity of Vilas Road.

North of Justice Road there are three possible alignments: Design Options A, B, and C, as with the build alternatives. The JTA phase alignment would be the same as the alignment of the build alternative design option selected as the preferred alternative. ODOT has identified the SD Alternative with Design Option C as the recommended alternative (see Section 2.5, below, for more information about selecting the preferred alternative). However, under each design option, the bypass would extend further north before curving east to meet existing OR 62 at a right angle (see Index Sheets 6A through 6C in Figure 2-9). As with the build alternatives under all three design options, the JTA phase would bisect Justice Road. On the east side of the bypass, Justice Road would terminate in a cul-de-sac. On the west side of the bypass, Justice Road would intersect with a new local road, referred to as the Justice/Gregory connector road. The Justice/Gregory connector road would connect Justice Road with Gregory Road, either along the Medco Haul Road alignment under Design Options A and B or along the west side of the bypass under Design Option C.

ODOT and FHWA have identified the SD Alternative with Design Option C as the Preferred Alternative. As with the build alternatives, the Justice/Gregory connector road has been eliminated from the JTA phase to reduce project cost and will not be built. To improve emergency vehicle response times, ODOT will install gates to allow emergency vehicle access between the bypass and the Justice Road cul-de-sacs on both sides of the bypass, as shown on Index Sheets 4C-FEIS and 5C-FEIS of Figure 2-9.

The three design options for the JTA phase would each include an intersection with existing OR 62 where Agate Road and OR 62 now intersect. The intersection would be controlled by a traffic signal and would allow all movements between the proposed bypass and existing OR 62, except for left turns onto the bypass from existing OR 62 northbound. There would be a one-way southbound connection from Agate Road to the bypass. Northbound traffic from either the JTA phase or the existing OR 62 would get to Agate Road via Antelope Road. Crater Lake Avenue currently terminates at Corey Road; the JTA phase would extend Crater Lake Avenue to Gramercy Drive. This extension of Crater Lake Avenue would include a sidewalk and wide shoulder for bicycles on its east side. Corey Road and Gregory Road

Figure 2-10



would intersect with Crater Lake Avenue, but not with OR 62. To get to existing OR 62, vehicles on those streets would proceed north to Gramercy Drive. Driveways on the east side of OR 62 between Corey Road and Gramercy Drive would be replaced by driveways to Crater Lake Avenue or Gregory Road.

The design of the northern terminus of the JTA has been changed from the design described above. See Index Sheet 6C FEIS of Figure 2-9. A left-turn lane from OR 62 northbound onto the bypass has been added to the intersection of the bypass with existing OR 62. Crater Lake Avenue will be extended north to Gregory Road, but not to Gramercy Drive. Fowler Lane, which now intersects with Crater Lake Avenue, will be extended to intersect with existing OR 62 to provide access between existing OR 62 and the roadway network to the east. As with the previous design, Corey Road and Gregory Road will intersect with the extended Crater Lake Avenue, but not with existing OR 62, which they do now. Crater Lake Avenue will be rerouted between Lotus Lane and Corey Road to separate its intersection with Fowler Lane from the intersection of Fowler Lane with OR 62. These changes to the design of the northern terminus move the connection between existing OR 62 and the local roadway network to south of the intersection between the bypass and existing OR 62. This will reduce congestion in the stretch of OR 62 between the bypass intersection with existing OR 62 and the intersection of OR 62 with OR 140. The changes also increase spacing between intersections.

Future phases of either build alternative may make some of the improvements at one or both ends of the JTA phase obsolete. In that case, the obsolete improvements would be removed and any unused right-of-way could change to another use. Figure 2-11 shows the northern and southern ends of the SD Alternative and the JTA phase improvements that would become obsolete if the SD Alternative were constructed. At the JTA phase NorthTerminus, under the DI Alternative, the obsolete improvements would be the same as under the SD Alternative. At the southern end, none of the JTA phase improvements would become obsolete under the DI Alternative. The construction cost of the JTA improvements discarded when the full SD Alternative is constructed, is estimated to be about \$20 million in 2014 dollars. The construction cost of the JTA improvements discarded when the full DI Alternative is constructed is estimated to be about \$13 million in 2014 dollars.

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Figure 2-11

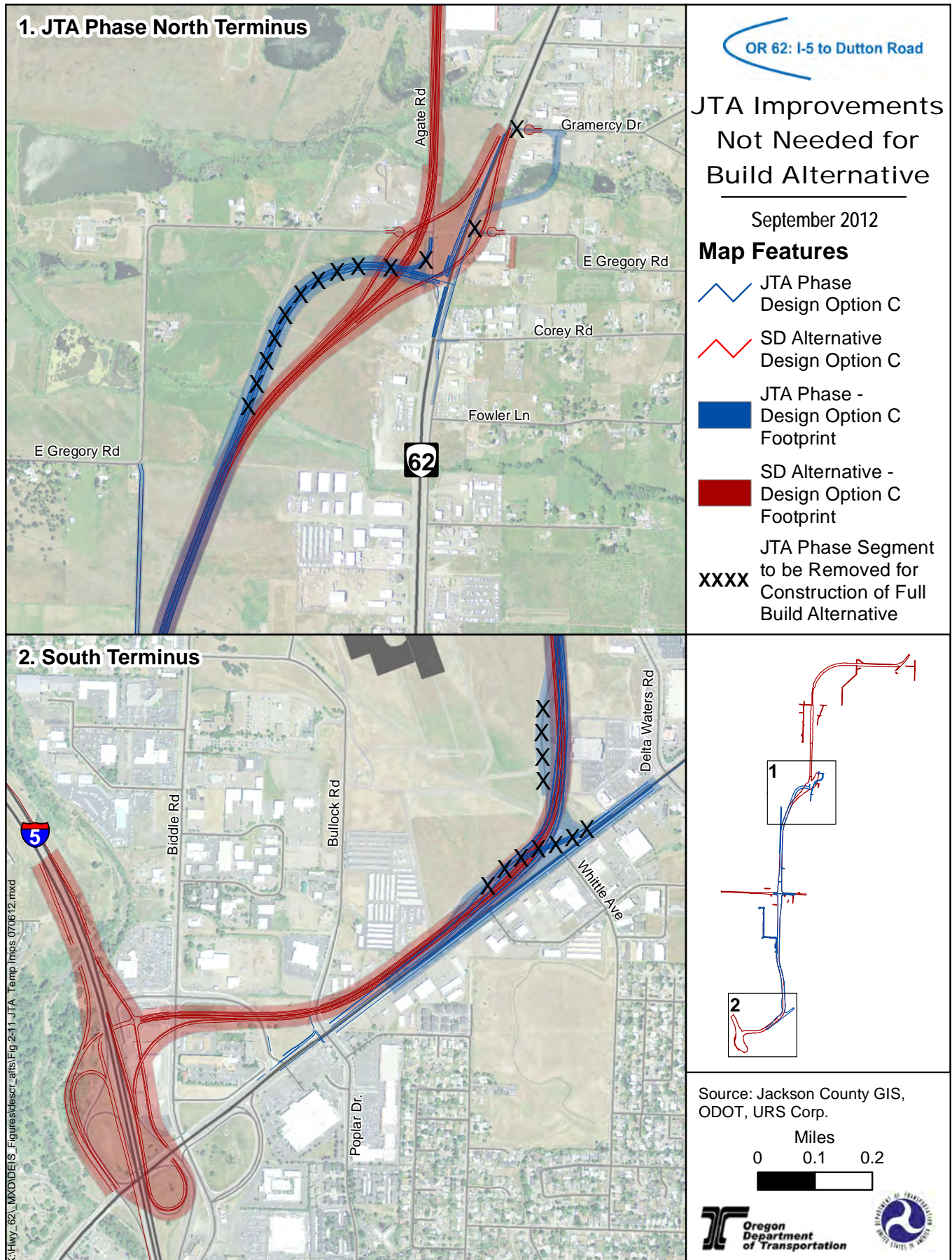
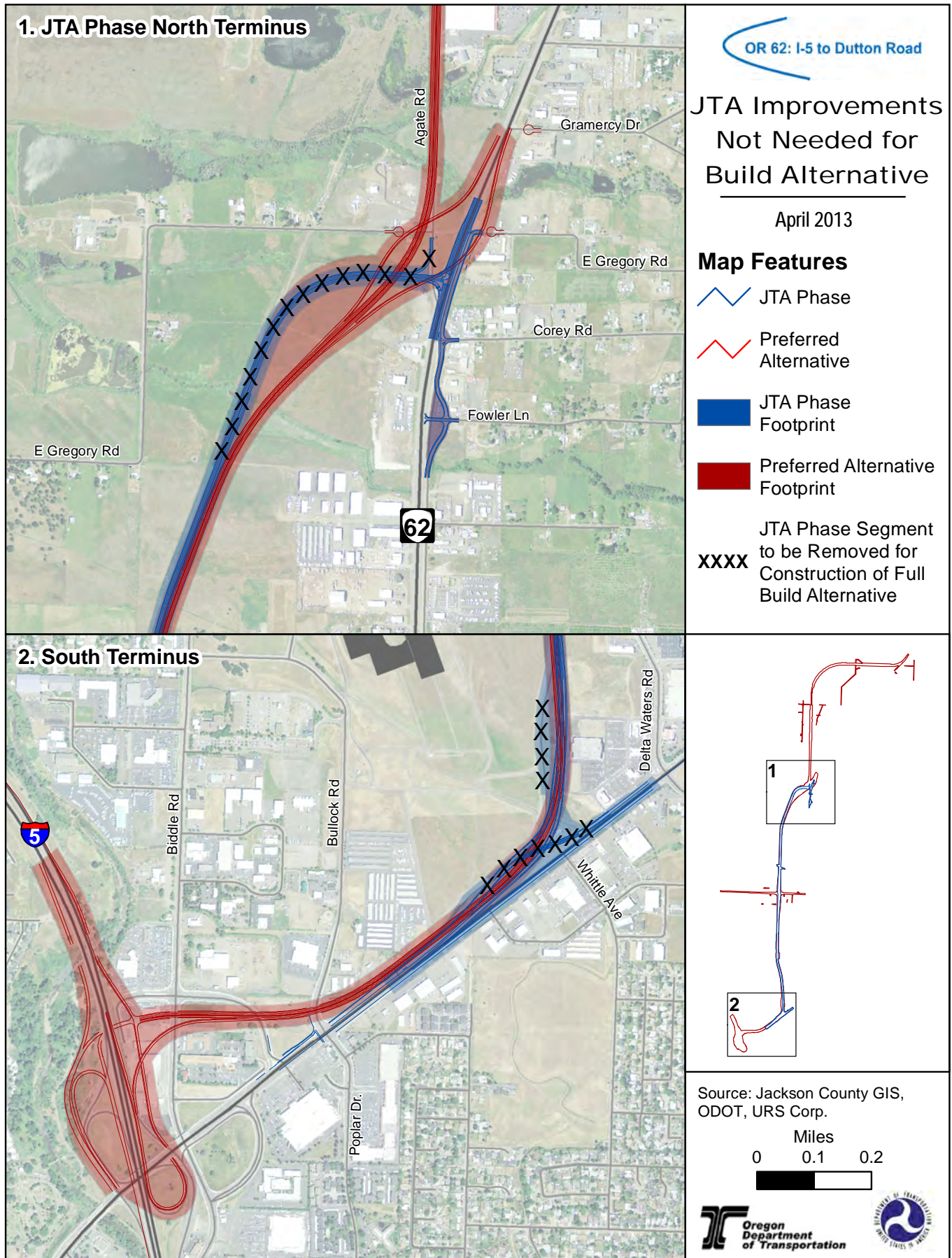


Figure 2-11 FEIS



2.2 Screening Criteria and Evaluation Measures

Early in the project, ODOT sought input on potential solutions to the problems identified in the Purpose and Need. As described more fully in Section 7.4.1, ODOT held public meetings to obtain input and ideas for potential alternatives. ODOT also requested (and received) ideas from the public in Moving Ahead, an insert in the Medford Mail Tribune. The PDT and CAC (described more fully in Section 7.3) also developed a range of potential alternatives, some of which had been identified during the North Medford Interchange project. Overall, ODOT received 23 concepts. Many of those concepts were similar. Four concepts recommended converting the existing OR 62 into a limited-access highway and providing frontage and/or “backage” roads for local access. Those four concepts were grouped together to become the “Existing Highway Build Alternative.”

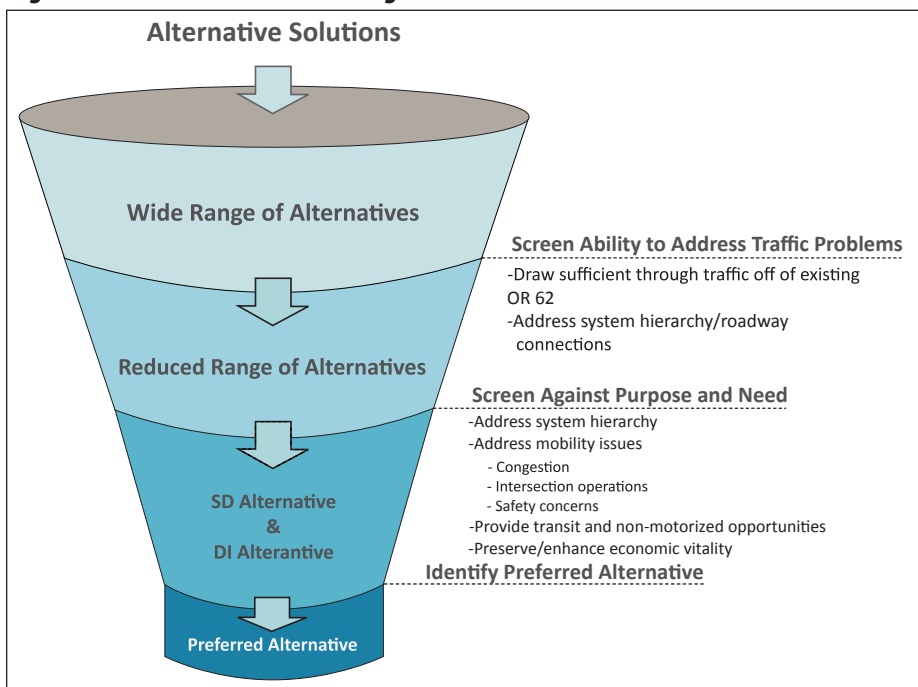
Ten concepts recommended bypassing existing OR 62, using a variety of slightly different alignments. Those ten concepts were grouped together to become the “Bypass Alternative,” which later was refined to become the SD and DI Alternatives. After the grouping, there were 11 alternatives that constituted the “wide range of alternatives” that were subjected to the screening criteria. During the screening process, the SD Alternative was added to the set of 11 alternatives, for a total of 12 alternatives.

This section describes the application of the screening criteria and evaluation measures that was conducted to narrow the wide range of alternatives to the two build alternatives that are evaluated in the EIS. Figure 2-12 provides a schematic illustration of the alternatives narrowing process.

The project used a two-part screening process to evaluate and dismiss alternatives. The initial screen was a pass/fail evaluation of each alternative’s ability to address the basic transportation issues as defined in the transportation problem. This screen evaluated whether each alternative would separate through-trips from local trips and thereby sufficiently address future capacity needs. Alternatives that passed the initial screen were advanced to the second screen. The second screen evaluated the degree to which each alternative met the project’s Purpose and Need and the project’s Goals and Objectives using the project’s evaluation measures for transportation issues. If an alternative did not address the transportation problem, it could not meet the project’s Purpose and Need.

For further information regarding the process of developing and selecting project alternatives, see the *Alternatives Considered Technical Report, Highway 62 Corridor Project*. This report is available from the ODOT contact person identified on page i of this EIS.

Figure 2-12 Alternatives Narrowing Process

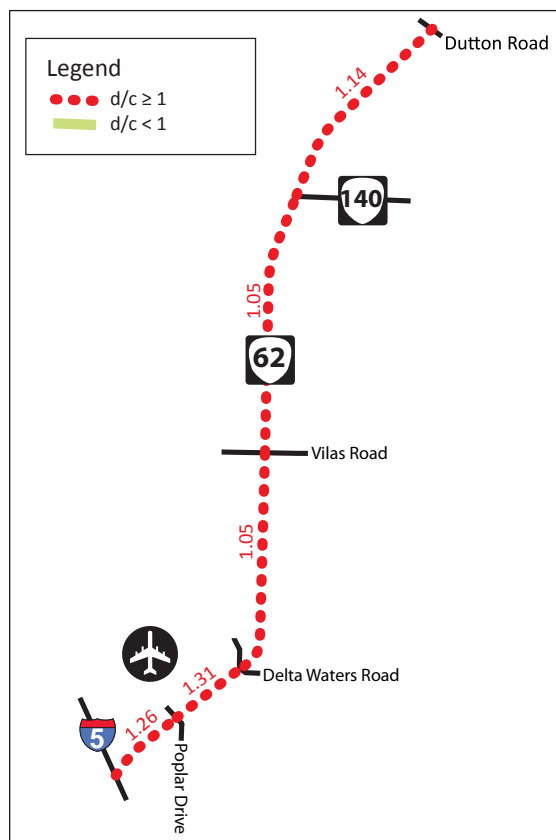


The two-part screening process is described in greater detail in Sections 2.2.1 Application of Initial Screen and 2.2.2 Evaluation Criteria. Section 2.3 Alternatives Considered but Eliminated from Further Consideration, provides maps and descriptions of all of the alternatives that were evaluated and dismissed. Section 2.4 Comparison of Alternatives provides a comparison of the SD and DI Alternatives that are evaluated in this DEIS.

2.2.1 Initial Screening Process

As stated above, the initial screen was a pass/fail evaluation of the alternative's ability to address the basic transportation issues as defined in the transportation problem. The initial screen evaluated whether each alternative would separate through-trips from local trips and therefore be likely to meet future capacity needs. The OR 62 Transportation Problem was first defined in the Oregon Highway 62 Origin and Destination Study (1999). This study documented trip types and travel behavior on OR 62. The study concluded that 60 percent of the total OR 62 trips have an origin and/or destination within the OR 62 project area while the remaining 40 percent have an origin and destination outside of the OR 62 project area. OR 62 is used both as a local connector as well as a regional and interurban connector.

Figure 2-13: d/c Ratios for No Build Alternative



The initial screen consisted of travel demand forecasting using the Rogue Valley Council of Government (RVCOG) EMME/2 regional travel demand computer model. Travel demand models are widely used for transportation project development, transportation planning and land use planning. This model was used to determine how well each alternative would address travel demand on OR 62 in the year 2035.²

The EMME/2 travel demand model breaks the regional road system into links or segments. The beginning and end point for each link is an intersection with another roadway. Each link has general characteristics like number of travel lanes and speed; these characteristics determine the link's carrying capacity. The EMME/2 model assigns traffic to the regional road network based on travel patterns, population, employment areas, and other factors. Results of the EMME/2 model runs show capacity on road links expressed as a demand-to-capacity ratio (d/c). The d/c is the number of vehicles at a snapshot in time, divided by the capacity of the roadway. D/C is generally reported as a decimal, e.g. 0.8 or 1.2. A road link with a d/c greater than 1.0 would be extremely congested (demand for the roadway is greater than the roadway's capacity), while a link with a low d/c such as 0.2 would be free-flowing. The d/c also implies how the intersections at either end of the link are operating. If the d/c of the roadway link is greater than 1.0, the intersections at either end of that link would also be over capacity and congestion will occur in the form of queues.

Since the model capacities are generally less than the detailed operational capacities, links with a d/c less than 1.0 would range from relatively free of issues to having problems that could be solved with a reasonable level of effort. Results that include links that are over capacity (d/c > 1.0) indicate serious issues that would require a substantial level of additional improvements.

The d/c analysis that was used for this initial screen allowed all 12 alternatives to be evaluated at the appropriate level of detail and within a reasonable amount of time. The travel demand model d/c ratios included in this chapter cannot be compared with v/c ratios included in Section 3.1 Transportation Facilities, because those v/c ratios were developed using a more detailed analysis and a different methodology.

² ODOT projects typically use a 20-year planning horizon. The traffic analysis for this screen was conducted in 2005 and used 2030 as its forecast year. Although the OR 62 Corridor Solutions Project has since extended the forecast year to 2035 for the DEIS traffic analysis, the conclusions based on 2030 traffic remain valid.

For the initial screen, each alternative was added to the EMME/2 regional road network and travel demand model d/c ratios were obtained for the year 2030. Project staff converted model outputs for each alternative into diagrams like the one shown in Figure 2-13. This figure shows travel demand model d/c ratios for the No Build Alternative conditions in 2030. The red dotted lines represent segments of OR 62 that would have a d/c ratio of greater than 1.0. In similar figures for other alternatives that were considered, segments of OR 62 that would have a d/c ratio of less than 1.0 are shown with pale green lines. As shown in Figure 2-13, all segments of OR 62 between I-5 and Dutton Road are forecasted to have travel demand model d/c ratio of greater than 1.0 and experience heavy congestion in 2030 if no additional improvements are made to the highway.

The travel demand model d/c ratios on OR 62 for each alternative were compared to No Build Alternative conditions in the year 2030 to determine the effectiveness of each proposed alternative. Alternatives that not only showed improved travel demand model d/c ratios on OR 62 compared to the 2030 No Build Alternative conditions, but also had d/c ratios less than 1.0, were assumed to address the project's transportation problem and were therefore advanced for further study in the second screen. Those alternatives were then subjected to a more detailed evaluation as described in Section 2.2.3 Evaluation Criteria.

Alternatives that included multiple segments of OR 62 with travel demand model d/c ratios greater than 1.0 were dismissed from further consideration. The assumption was that there would need to be substantial changes to the proposed alternative in order to reduce the forecasted volumes to acceptable levels. If an alternative resulted in worse travel demand model d/c ratios than the 2030 No Build Alternative – that is, it contained more “failing” segments of OR 62 than the No Build Alternative – it would obviously fail to solve the congestion problem on OR 62. Failing to solve the congestion (capacity) problem would also fail to improve intersection operations and safety. Alternatives that showed little or no improvement in the travel demand model d/c ratios on OR 62 as compared to the 2030 No Build Alternative were dismissed during the initial screen. The initial, wide range of alternatives are described in Section 2.3. Of the twelve alternatives that were initially developed it was determined that eight of them did not solve the transportation problem and therefore could not meet the project's Purpose and Need. The remaining four alternatives were evaluated to see if they addressed the project's Purpose and Need Statement which embodied the desirable characteristics of a proposed design solution.

2.2.2 Application of the Purpose and Need

Four alternatives remained after the initial screen was completed: the Existing Highway Build Alternative, the Texas Turnaround Alternative, the Bypass with a Split Diamond Interchange Alternative, and the Bypass with a Directional Interchange Alternative (also referred to as the “Plain Bypass”). ODOT engineers developed the designs for each of these four alternatives to the point where the alternative could be evaluated in greater detail than had been possible during the preliminary screen. Design refinements were informed by feedback received during targeted outreach with businesses and community groups, as described in greater detail in Section 7.4.2.

The preliminary travel demand analysis showed that each of these four proposed alternatives was successful in diverting at least 40 percent of the current and future trips onto the OR 62 Bypass. There were also two design options for the northern terminus of the project: the Existing Highway which was a widening of the existing Hwy 62 and the new Bypass to the West. The Existing Highway, Texas Turnaround, and north terminus “Existing Highway” design options were all dismissed because they failed to meet the Purpose and Need as described below.

With respect to the project's Purpose and Need, these four alternatives were evaluated for whether they would accomplish the following goals.

- Simplify roadway connections along OR 62
- Comply with ODOT operational standards
- Improve deficient intersection operations
- Address safety concerns
- Maintain the regional economic role of commercial areas along OR 62
- Address transit and non-motorized transportation mode deficiencies

During the second screen, the four alternatives were subjected to a more detailed traffic analysis than was conducted for the first screen. This analysis developed a preliminary assessment as to whether key intersections for each alternative would comply with the applicable operational standards. The results of this evaluation helped to determine whether each alternative would address the mobility issues included in the Purpose and Need Statement and described below. This additional analysis is a more refined application of the d/c ratios to specific conditions.

Address current and future highway capacity needs. ODOT d/c ratio standards are designed to ensure that proposed transportation improvements are designed with sufficient highway capacity to serve the volume of traffic that is forecast within a 20-year planning horizon. As described in the methodology section below, the initial screen was based on an analysis of 2030 traffic volumes.

Improve intersection operations. The initial screen did not specifically evaluate intersection operations. Instead it looked at d/c ratios for midblock sections, because d/c ratios on roadway segments are related to the intersection operations at either end of those segments. Intersections are designed to accommodate the volumes of traffic that flow through them; if a roadway segment is shown to be well over capacity (i.e. the d/c ratio is greater than 1.0), the intersections at either end of that segment will be over capacity.

Provide enhanced transportation safety. Although there are multiple factors that influence safety, crash rates typically increase as congestion increases. Safety can also be compromised when there are a number of un-signalized local streets connecting directly to OR 62. When congestion occurs, the distance between vehicles decreases, giving drivers less time to react to changes in traffic speed and less space in which to merge or change lanes. As d/c ratios approach (or exceed) 1.0, the level of congestion is great enough to pose a potential safety problem.

Preserve the local and regional economic importance of the businesses along OR 62. An efficient transportation system is critical to the region's economic health. Mobility issues can contribute to the economic decline of an area. Areas suffering from chronic, long term transportation and mobility problems will naturally decline as people seek out areas that do not have these problems. The ability to provide a safe and efficient movement of goods and services is critical to maintaining the health of manufacturing, commercial and retail activity centers. D/c ratios greater than 1.0 represent significant mobility deficiencies, including congestion, which can deter customers from patronizing businesses. Addressing the region's transportation demand and capacity needs, as well as other mobility issues, such as safety, can help to ensure the region's continued economic health and vitality.

The area along OR 62 between I-5 and White City is a business, retail and employment district considered critical to the Rogue Valley region. The area contains a mixture of commercial and industrial employment, regional and local retail sales. The area contains two large shopping centers, six big box stores, 16 retail buildings with more than 30,000 square feet of floor area, and many small or moderate-sized strip malls, shopping centers, motels, restaurants, retail stores, offices, and services businesses, all located along OR 62. In addition, there is a large area of employment in White City on Antelope Road, between OR 62 and

Table Rock Road. Employment in this area includes timber products, general manufacturing and state and local government employment. This business/employment district represents a significant proportion of the economic activity of the Medford region.

Transit and non-motorized transportation mode deficiencies. The wide range of alternatives that were subjected to the initial screen did not include multimodal enhancements such as bicycle lanes, sidewalks, or transit improvements. Because multimodal enhancements could have been added to any of the alternatives at a later stage in the project development, no alternative was dismissed for its lack of such improvements. This aspect of the Purpose and Need was applied during the second screen.

2.2.3 Evaluation Measures

The Evaluation Measures were used to provide additional factual information and help inform the discussion that determined whether the proposed alternative met the Project's Purpose and Need. Early in the Project planning, the PDT and CAC developed project Goals and Objectives to help guide the alternatives analysis process. The Goals and Objectives included relevant criteria with specific evaluation measures that provided a basis of comparison between the alternatives.³

Appendix A lists the goals, objectives, criteria, and evaluation measures. The table also includes quantitative or yes/no responses to the measures for each of the four alternatives as they existed at the time when the measures were applied.⁴

At the time when the evaluation measures were applied, the designs were preliminary and did not include enhancement and mitigation measures or specific information about materials and appearance. As a result, some of the evaluation measures such as "Number of enhancements for native fish and wildlife habitats" (Goal 2) and "Provides improvements that are visually pleasing" (Goal 6) could not be answered at that time because those aspects had not been designed. In such cases where an answer would have been speculative, the evaluation measures were not applied and a comment was included about the lack of design information. In other cases, some evaluation measures required a fairly extensive technical analysis, such as those that related to noise or travel times. In lieu of conducting technical analyses at that point, evaluation measures were assessed with estimates. All of the responses were based on the information that was available at the time, and on the designs that existed at the time. In the years since the evaluation measures were applied, the alternatives that are being analyzed in the EIS have been further refined and more extensive technical analyses have been conducted.

³ More recently during the project development, when the DEIS alternatives were identified, CETAS representatives requested that the Goals, Objectives, Evaluation Criteria, and Measures be refined. The refinements provide more precise means for evaluating the alternatives (the EIS alternatives are more alike than the four alternatives being described in this section, and therefore required a more fine-grained set of measures).

⁴ The impact calculations for the two Bypass Alternatives listed in Table 4-1 of the Alternatives Considered Technical Report may be slightly different than the impact calculations now included in the EIS because more refined designs are now available upon which to provide more detailed technical analysis.

2.3 Alternatives Considered but Eliminated from Further Consideration

For further information on the full range of alternatives that were considered see the *OR 62 Alternatives Considered But Dismissed Report, OR 62 Corridor Solutions Project*, (March 10, 2012). This report is available from the ODOT contact person identified on page i of this EIS.

This section addresses the alternatives that were considered but eliminated from further consideration during the initial and second screen. The section includes a description of the alternative, as well as a diagram similar to Figure 2-13 showing results of the traffic analysis for each alternative. The diagrams indicate whether d/c ratios would be greater or less than 1.0, as well as segments on OR 62 that would function worse than the 2030 No Build Alternative conditions. After reviewing all of the diagrams and traffic analysis, alternatives were dismissed that failed to address the project's transportation problem.

For the initial screen, the alternatives were treated as added or improved links in the regional roadway network rather than specific roadway alignments. Although project engineers turned the hand-drawn sketches into the maps shown in the following pages, engineers did not correct the roadway geometry (some sketches include curves that were too tight) nor did they refine the alignment. Prior to the initial screen, attributes such as number of lanes, their configurations and roadway width were added to the designs, as part of the traffic analysis models input and parameters. The maps provided in this section should be used as visual aides to help the reader understand which roads would intersect and which would be widened; however, they should not be interpreted as showing the precise location of a proposed road. The assumption was that the initial traffic analysis would help pinpoint where network improvements would be needed to solve the traffic problem on OR 62; once the needed links were identified, engineers could then determine the best alignments for those new roads. Alternatives that passed the initial screen were developed and refined prior to being evaluated at the second screen.

As is apparent from reviewing the alternatives on the following pages, many alternatives included multiple concepts such as extending OR 140 west to I-5, adding multiple local streets, and bypassing OR 62. The initial screen using the d/c ratios showed that extending OR 140 to I-5 or enhancing the local street network would not solve the problems identified in the Purpose and Need. As a result, alternatives that included those concepts were dismissed. However, some of the major elements of those alternatives, such as bypassing OR 62, are contained in the alternatives still under consideration. Similar characteristics such as the bypass and fixing the existing highway also appear in the North Terminus Options and the Alternatives Considered in this document. The North Terminus Bypass West was found to have addressed the transportation problem and would complement any of the other proposed alternatives. It was subsequently evaluated in conjunction with the other Corridor Alternatives.

The initial screen began with twelve Corridor Alternatives and three North Terminus Design Options for White City. Of the twelve Corridor Alternatives and three North Terminus Design Options, eight of the Corridor Alternatives and the three North Terminus Design Options were determined to have failed to address the basic transportation problem. The remaining four Corridor Alternatives (Directional Interchange Bypass Alternative (DI Alternative), Split Diamond Bypass Alternative (SD Alternative), Existing Highway Build Alternative, Texas Turnaround Alternative and North Terminus Bypass, West) that addressed the transportation problem were advanced and evaluated against the Purpose and Need Statement. The result of the Purpose and Need evaluation found that the DI and SD Alternatives, as well as, the North Terminus Bypass West did meet the Purpose and Need Statement and were advanced into the DEIS.

The following pages describe the elements of all of the Alternatives Considered as well as additional information and justification for their dismissal.

Figure 2-14



2.3.1 I-5 Realignment: Newspaper Alternative 7

Description

- I-5 would be realigned to bypass Medford to the east. The 8.6-mile long bypass would be located along North Foothill Road until approximately Delta Waters Road. North of Delta Waters Road, the bypass would turn northwest to intersect OR 62 just south of Lotus Lane. After intersecting with Table Rock Road just north of Gregory Road, the bypass would head west and reconnect with existing I-5 north of the existing I-5/OR 99 Rogue Valley Interchange. The realigned highway would be an access-controlled facility.
- OR 140 would be extended southwest to intersect with the bypass just south of Gregory Road.
- Interchanges would be located at Coker Butte Road, East Vilas Road, OR 62, Table Rock Road, and OR 99.
- A partial interchange would be located southeast of East Gregory Road to provide a connection from the bypass to OR 140.

Reasons for Not Advancing

- Did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues.
- Preliminary traffic analysis showed that in 2030, traffic congestion on OR 62 between I-5 and Delta Waters Road and between OR 140 and Dutton Road, would be worse than the No Build Alternative, as shown in Figure 2-15.
- There would be significant Section 4(f) impacts on Denman Wildlife Area.
- There would be significant impacts on Exclusive Farm Use (EFU) land.
- This alternative would have impacted an estimated 244 parcels and displaced an estimated 314 buildings as shown in Table 2-2.

Figure 2-15 2030 d/c Ratios for Newspaper Alternative 7

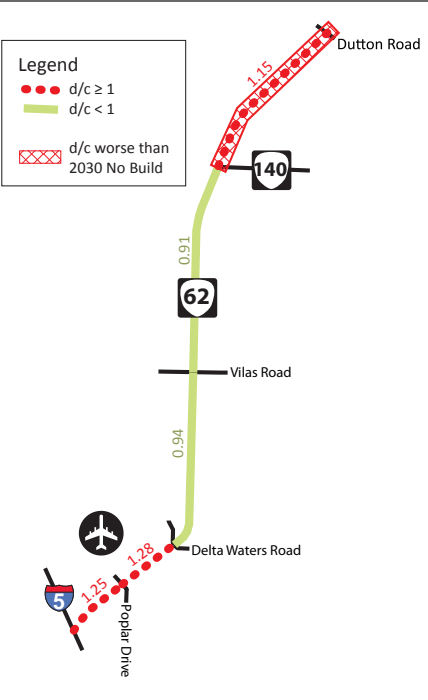
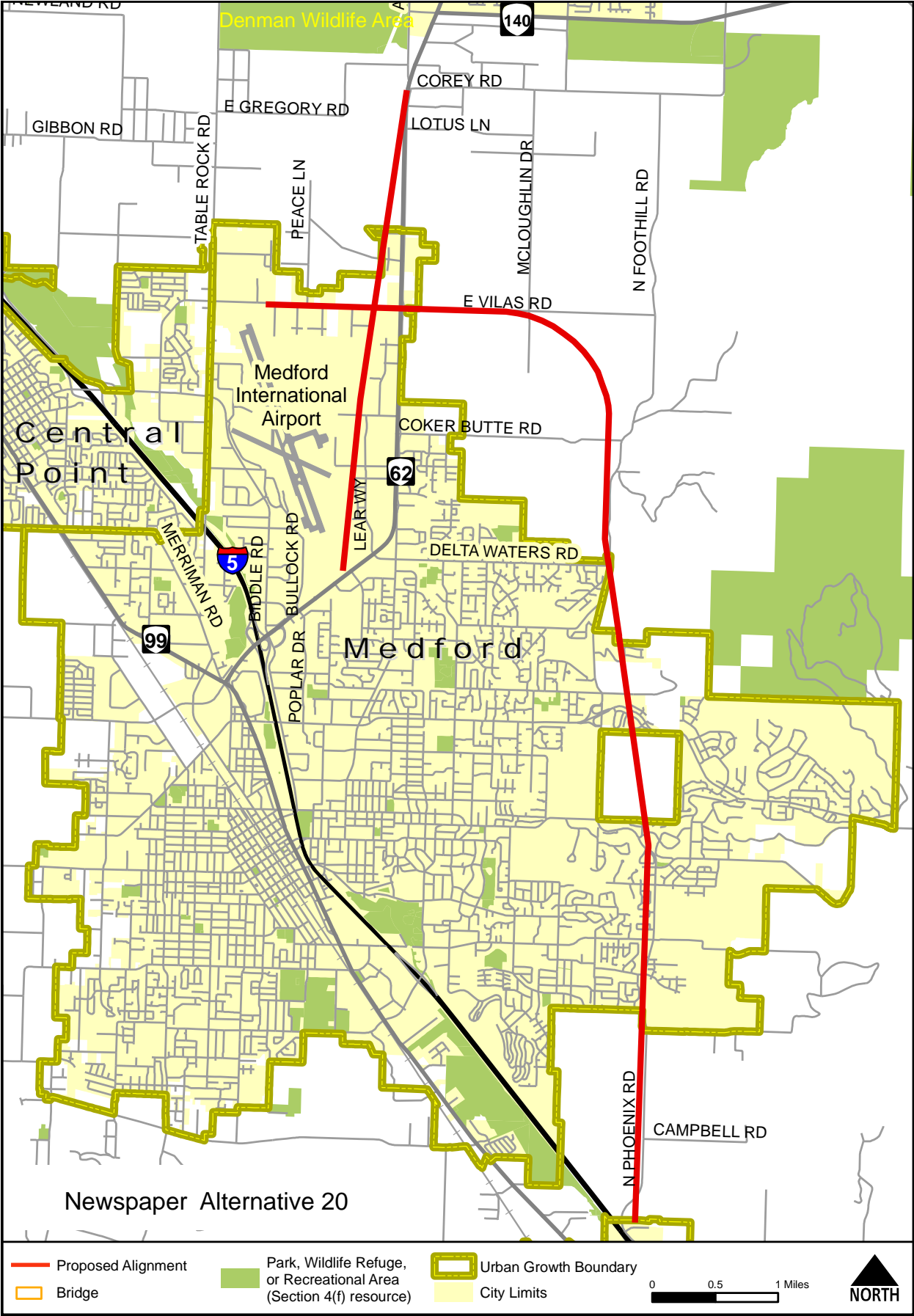


Table 2-2 Estimated Impacts from Newspaper Alternative 7

Estimated Parcels						
	Residential	Commercial	Industrial	Farm	Forest	Total
Lots	104	41	42	34	23	244
Acres	204	16	78	132	110	540
Estimated Displacements						
	Residential	Commercial	Unknown			Total
Units	199	55	60			314

Figure 2-16



2.3.2 I-5 Realignment: Newspaper Alternative 20

Description

- I-5 would be realigned to bypass Medford to the east. The 9.5-mile long bypass would be located along North Phoenix Road and North Foothill Road, turning west at East Vilas Road and reconnecting with existing I-5 (the sketch that ODOT received did not show where the connection would be located).
- A new local road would be constructed on the west side of OR 62 from approximately Bullock Road to Corey Road to bypass OR 62.
- The sketch that ODOT received did not specify interchange locations.

Reasons for Not Advancing

- Did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues.
- Preliminary traffic analysis showed that in 2030, traffic congestion on OR 62 between I-5 and Delta Waters Road and between OR 140 and Dutton Road would be worse than the No Build Alternative as shown in Figure 2-17.
- There would be significant impacts on EFU land east of OR 62.
- This alternative would have impacted an estimated 474 parcels and an estimated 439 buildings, as shown in Table 2-3.

Figure 2-17 2030 d/c Ratios for Newspaper Alternative 20

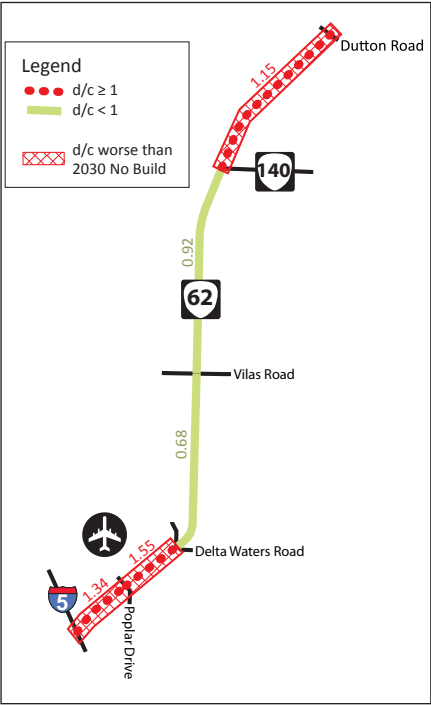


Table 2-3 Estimated Impacts from Newspaper Alternative 20

Estimated Parcels						
	Residential	Commercial	Industrial	Farm	Forest	Total
Lots	259	35	141	34	5	474
Acres	154	49	164	108	5	480
Estimated Displacements						
	Residential	Commercial	Unknown			Total
Units	244	145	50			439

Figure 2-18



2.3.3 Regional Improvements: C 2-10

Description

- OR 140 would be extended west to intersect with I-5 in the vicinity of the existing I-5/OR 99 interchange. The concept did not specify an intersection or interchange design.
- Coker Butte Road would be extended east to North Foothill Road.
- A new local road would be constructed in the vicinity of Owen Drive from Lear Way to North Foothill Road.
- Table Rock Road would be widened by two lanes (one in each direction) between Biddle Road and OR 140.
- A new OR 62 bypass would be built from I-5 to OR 140 using the Medco Haul Road alignment.
- Delta Waters Road/Lear Way would be widened by two lanes (one in each direction) and extended to East Vilas Road.
- North Foothill Road would be widened by two lanes (one in each direction) and extended to Avenue H in White City.

Reasons for Not Advancing

- Did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues.
- Preliminary traffic analysis showed that in 2030, traffic congestion on OR 62 between I-5 and Poplar Drive would be worse than the No Build Alternative, as shown in Figure 2-19.
- There would be significant Section 4(f) impacts on Denman Wildlife Area.
- There would be significant impacts on EFU land east of OR 62 and west of Table Rock Rd.
- There would be significant residential impacts along North Foothills Rd.
- This alternative would have impacted an estimated 732 parcels and an estimated 723 buildings, as shown in Table 2-4.

Figure 2-19 2030 d/c Ratios for C 2-10

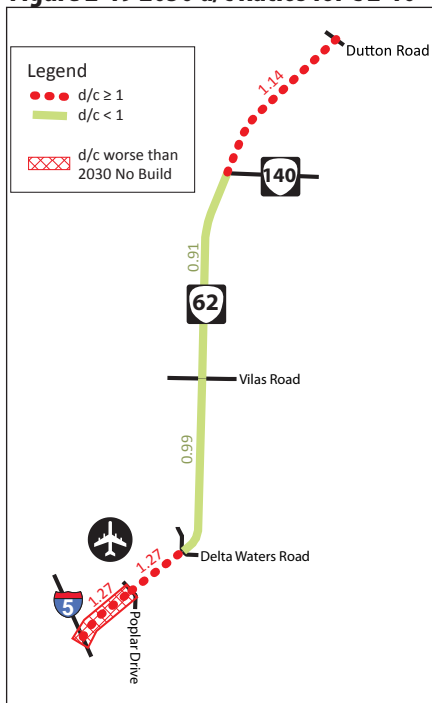
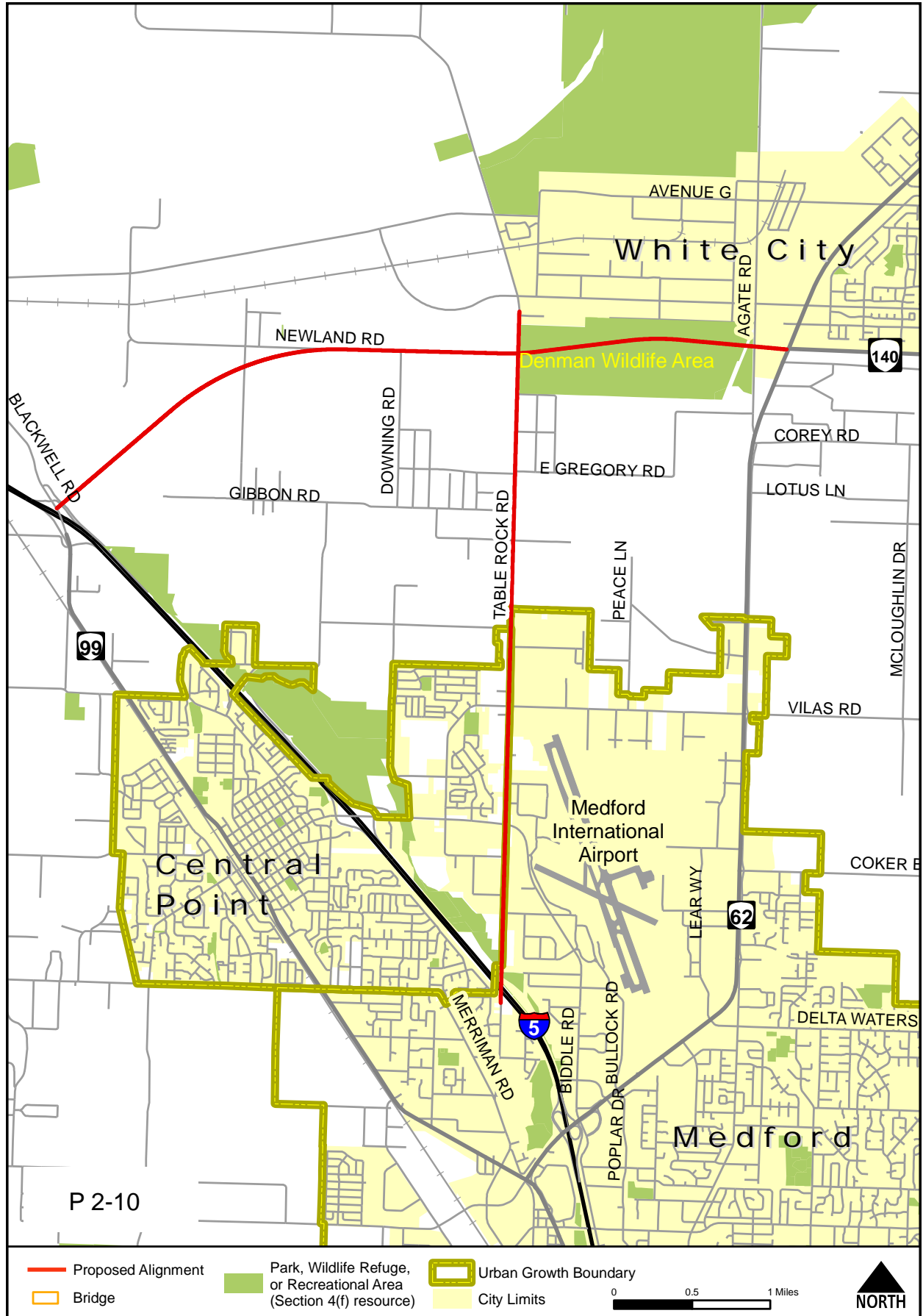


Table 2-4 Estimated Impacts from Alternative C 2-10

Estimated Parcels						
	Residential	Commercial	Industrial	Farm	Forest	Total
Lots	360	49	227	61	35	732
Acres	261	51	307	151	194	964
Estimated Displacements						
	Residential	Commercial	Unknown			Total
Units	397	210	116			723

Figure 2-20



2.3.4 Regional Improvements: P 2-10

Description

- OR 140 would be extended west to intersect with I-5 in the vicinity of the existing I-5/OR 99 interchange. The concept did not specify an intersection or interchange design.
- Table Rock Road would be widened by two lanes (one in each direction) between I-5 and the OR 140 extension.

Reasons for Not Advancing

- Did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues.
- Preliminary traffic analysis showed that in 2030, traffic congestion on OR 62 between I-5 and Poplar Drive and between OR 140 and Dutton Road would be worse than the No Build Alternative as shown in Figure 2-21.
- The concept of extending OR 140 west to I-5 was studied extensively and it was determined that an OR 140 extension would not address the transportation problem for the OR 62 Corridor.
- There would be significant Section 4(f) impacts on Denman Wildlife Area.
- There would be significant impacts on EFU land west of Table Rock Rd.
- This alternative would have impacted an estimated 259 parcels and an estimated 307 buildings, as shown in Table 2-5.

Figure 2-21 2030 d/c Ratios for P 2-10

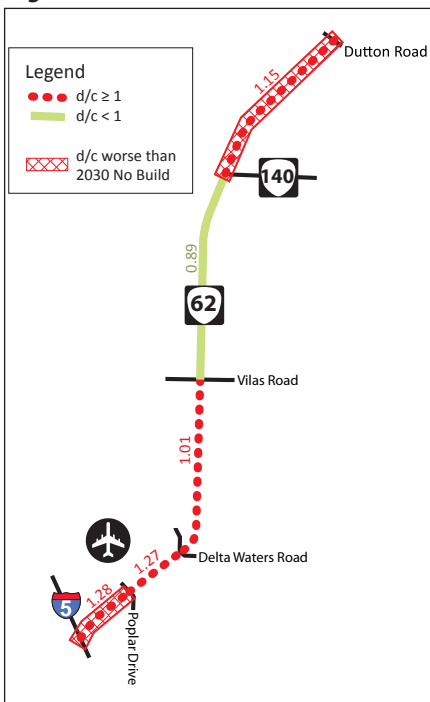
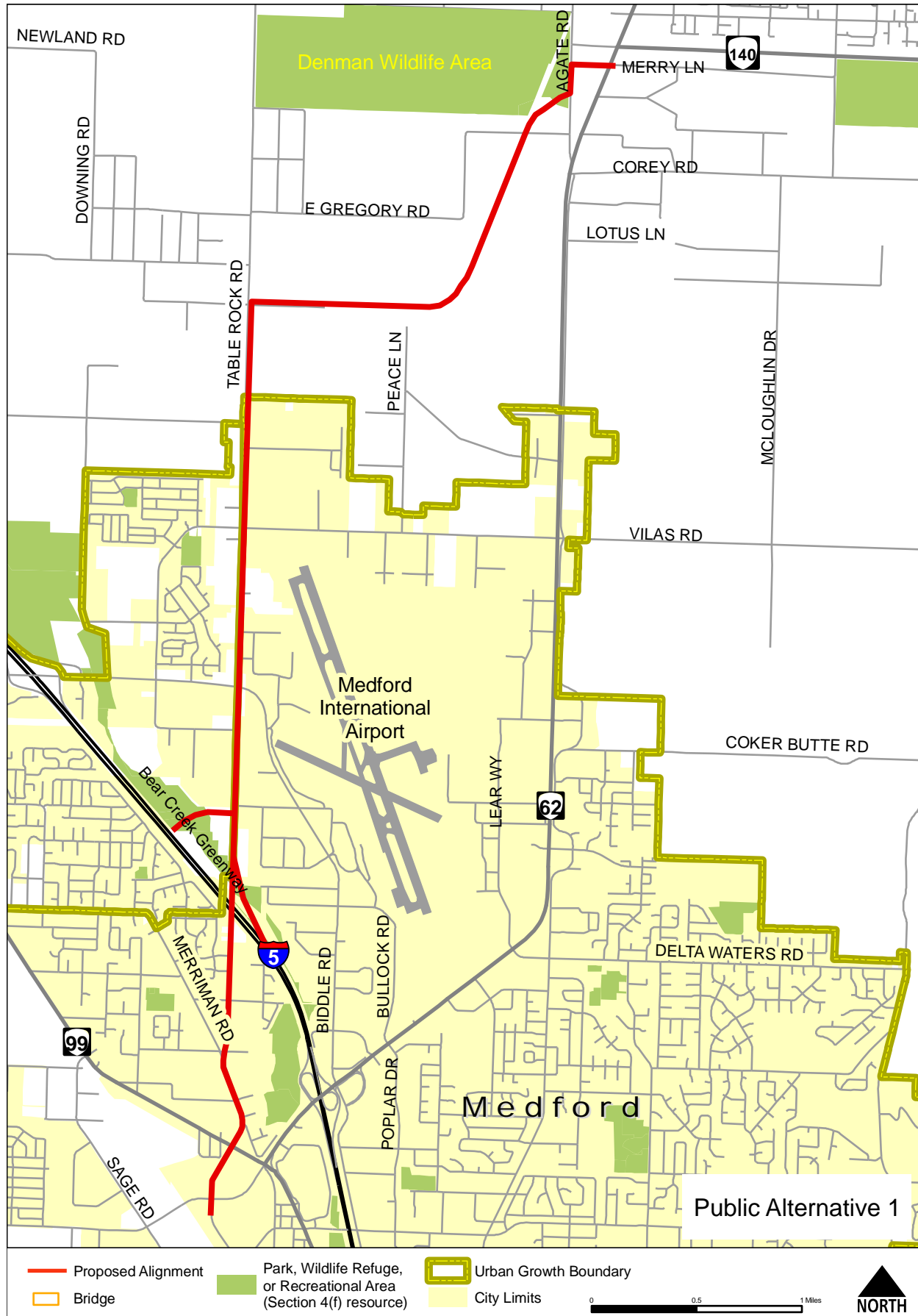


Table 2-5 Estimated Impacts from Alternative P 2-10

Estimated Parcels						
	Residential	Commercial	Industrial	Farm	Forest	Total
Lots	78	19	136	7	19	259
Acres	33	10	112	9	115	279
Estimated Displacements						
	Residential	Commercial	Unknown			Total
Units	89	183	35			307

Figure 2-22



2.3.5 Regional Improvements: Public Alternative 1

Description

- The southern terminus of this bypass would be near the intersection of OR 62 and OR 99 on the west side of I-5.
- The bypass would widen and use Merriman Road north to its intersection with Table Rock Road, then cross I-5 on a new structure and continue north on Table Rock Road. It was assumed that the current configuration on Table Rock Rd would be four lanes. At a point south of Gregory Road it would turn east then curve northeast on a new four lane facility that follows the Medco Haul Road alignment to Agate Road. It would follow a widened Agate Road to Merry Lane.
- No interchanges were included in the design, although new ramps to and from northbound I-5 are shown connecting to the bypass.

Reasons for Not Advancing

- Did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues.
- Preliminary traffic analysis showed that in 2030, traffic congestion on OR 62, between Delta Waters Road and Vilas Road, would be worse than the No Build Alternative, as shown in Figure 2-23.
- There would be Section 4 (f) impacts on the Bear Creek Greenway (new access ramps/bridge).
- There would be significant impacts on the residential areas west of I-5, east of Table Rock Rd and north of OR 62.
- There would be significant impacts on businesses along Table Rock and Merriman Road.
- This alternative would have impacted an estimated 327 parcels and an estimated 439 buildings, as shown in Table 2-6.

Figure 2-23 2030 d/c Ratios for Public Alternative 1

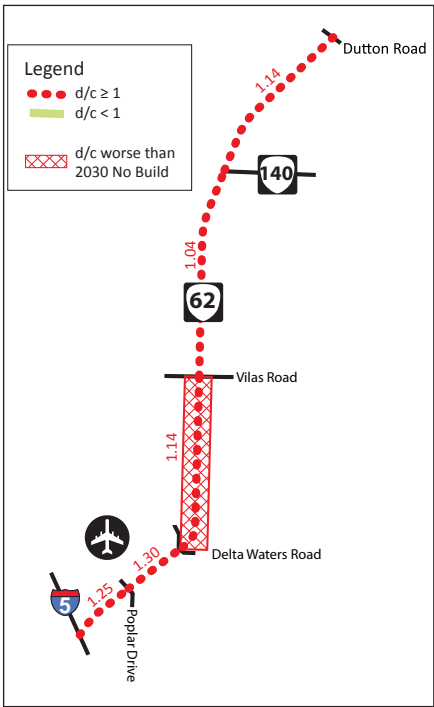
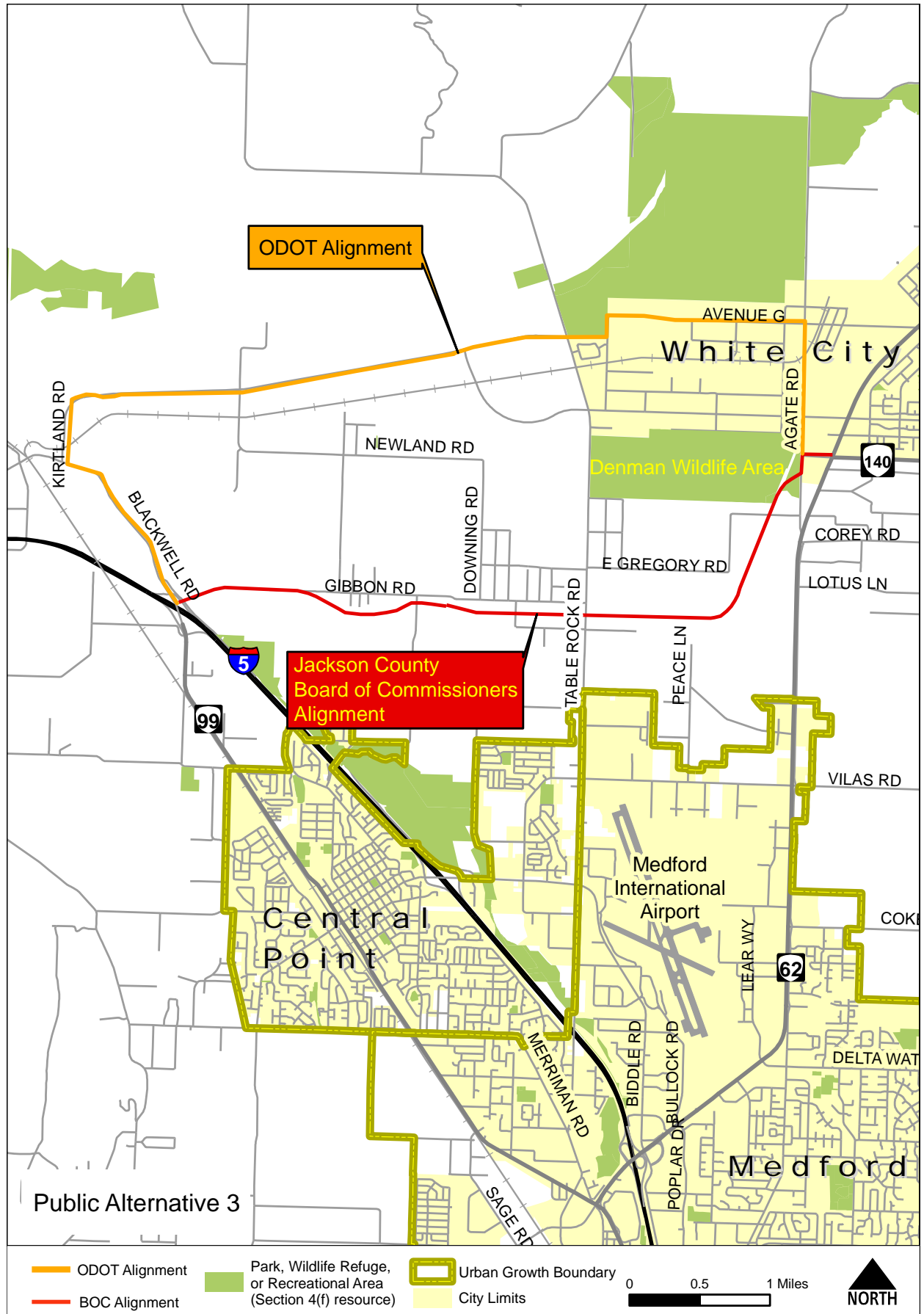


Table 2-6 Estimated Impacts from Public Alternative 1

Estimated Parcels						
	Residential	Commercial	Industrial	Farm	Forest	Total
Lots	135	34	136	5	17	327
Acres	64	18	83	7	51	223
Estimated Displacements						
	Residential	Commercial	Unknown			Total
Units	228	151	60			439

Figure 2-24



2.3.6 OR 140 Connections: Public Alternative 3

Description

- OR 140 would be extended to I-5. This alternative concept included two potential alignments.

Jackson County Board of Commissioners (BOC) Alignment

- This route would extend OR 140 to the south of the Denman Wildlife Area using the Medco Haul Road Alignment. South of East Gregory Road, it would turn due west, connecting with Gibbon Road, and continue west to the I-5/OR 99 interchange.

ODOT Alignment

- This route would be located north along Agate Road, west along Avenue G and Kirkland Road, and southwest along OR 99/Blackwell Road to I-5.

Reasons for Not Advancing

- Did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues.
- Preliminary traffic analysis showed that in 2030, traffic congestion on OR 62 between I-5 and Poplar Drive and between OR 140 and Dutton Road would be worse than the No Build Alternative as shown in Figure 2-25.
- There would be significant Section 4(f) impacts on Denman Wildlife Area.
- There would be impacts on EFU land west of OR 62.
- This alternative would have impacted an estimated 227 parcels and an estimated 155 buildings as shown in Table 2-7

Figure 2-25 2030 d/c Ratios for Public Alternative 3

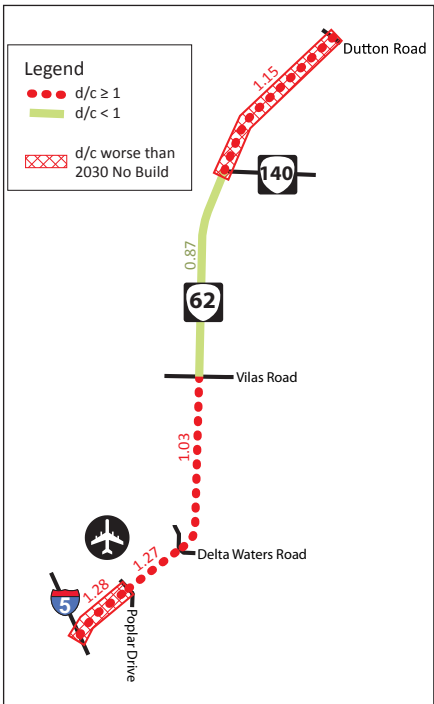
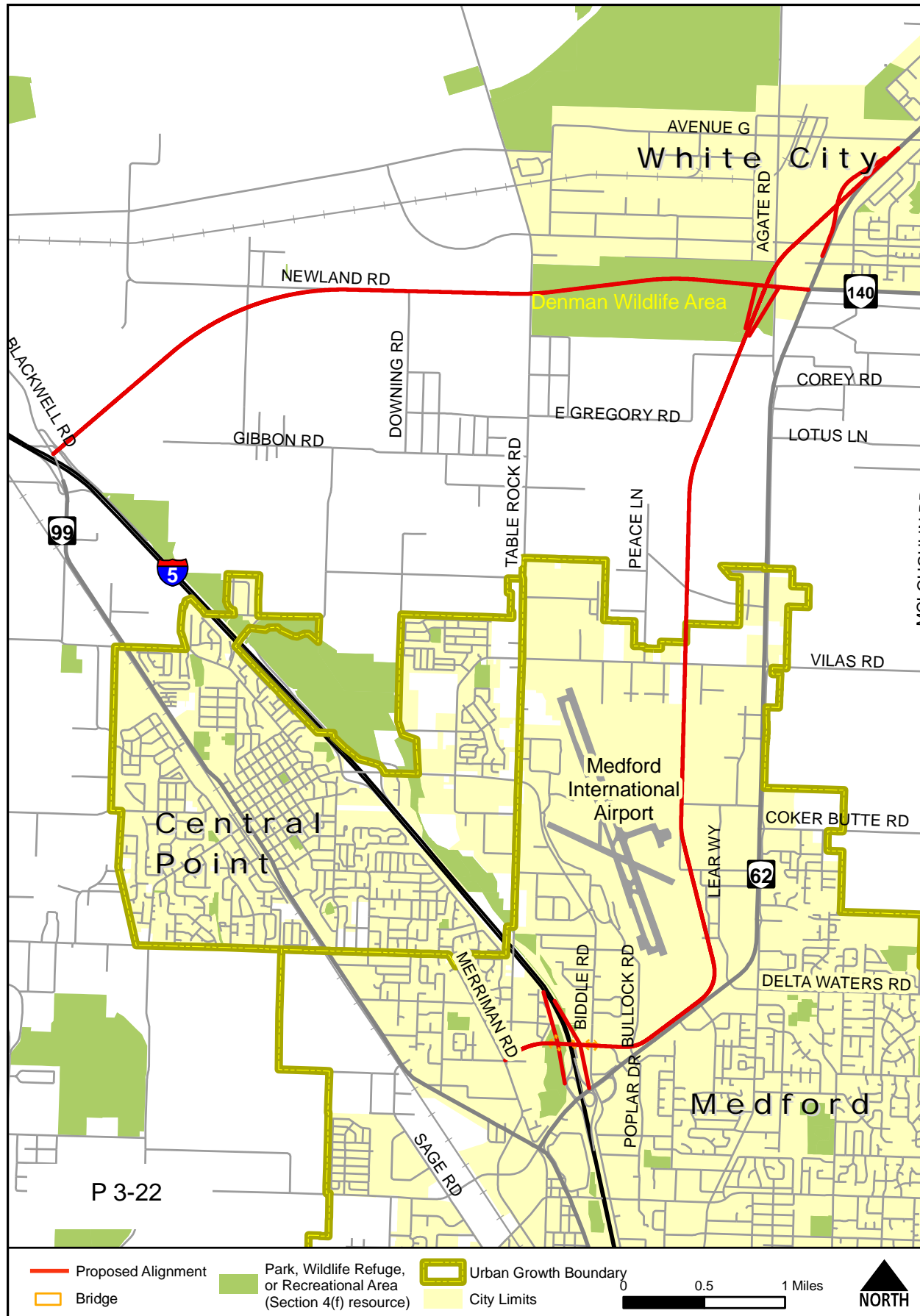


Table 2-7 Estimated Impacts from Public Alternative 3

Estimated Parcels						
	Residential	Commercial	Industrial	Farm	Forest	Total
Lots	78	9	86	20	34	227
Acres	114	6	170	44	67	401
Estimated Displacements						
	Residential	Commercial	Unknown			Total
Units	74	48	33			155

Figure 2-26



2.3.7 Bypass/OR 140 Connections: P 3-22

Description

This design included both a bypass west of OR 62 and an extension of OR 140 to I-5.

- An OR 62 bypass would be constructed on the Medco Haul Road alignment. The southern terminus of the bypass would be near the existing North Medford Interchange between I-5 and OR 62, and the bypass would extend north to approximately Avenue G in White City.
- OR 140 would be extended west through the Denman Wildlife Area to I-5 and would intersect with I-5 at the existing I-5/OR 99 interchange.
- Interchanges would be at the following locations: OR 62 bypass at I-5 (at the existing North Medford Interchange), the westerly OR 140 extension at I-5/OR 99, existing OR 62 and the OR 62 bypass (south of Avenue G) and the westerly OR 140 extension at OR 62 bypass.

Reasons for Not Advancing

- Did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues. The proposed OR 140 extension to I-5 would have only drawn less than 10 percent of future traffic off of OR 62 and was not needed.
- Preliminary traffic analysis showed that in 2030, traffic congestion on OR 62 between I-5 and Poplar Drive and between OR 140 and Dutton Road would be worse than the No Build Alternative as shown in Figure 2-27.
- There would have been significant Section 4(f) impacts to Denman Wildlife Area.
- There would have been significant impacts on EFU and Open Space Reserve (OSR) land west of OR 62 and south of Newland Road.
- This alternative would have impacted an estimated 254 parcels and an estimated 205 buildings as shown in Table 2-8.

Figure 2-27 2030 d/c Ratios for P 3-22

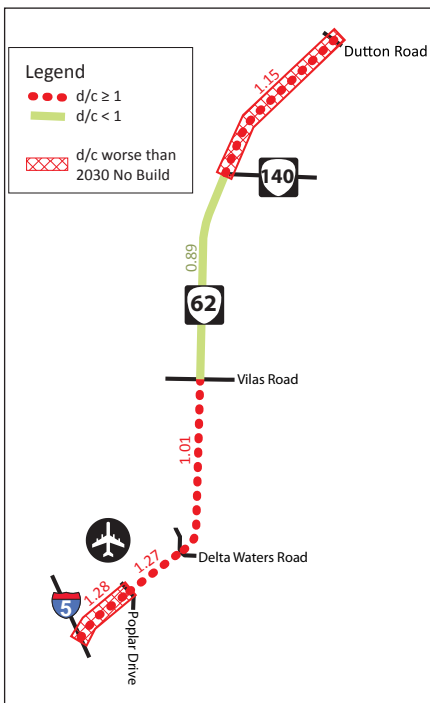
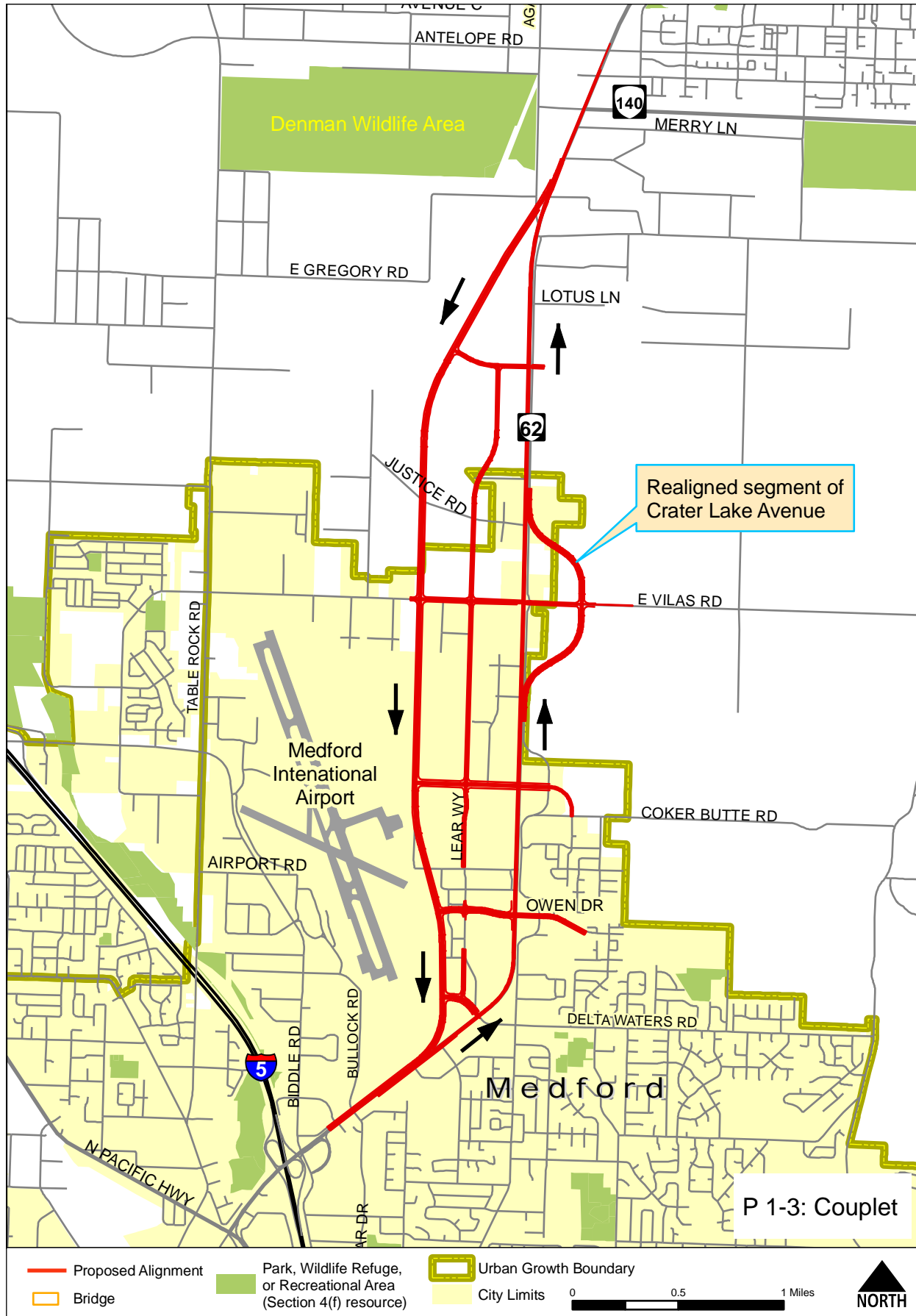


Table 2-8 Estimated Impacts from Alternative P 3-22

Estimated Parcels						
	Residential	Commercial	Industrial	Farm	Forest	Total
Lots	99	24	105	5	21	254
Acres	66	24	219	11	165	485
Estimated Displacements						
	Residential	Commercial	Unknown			Total
Units	117	85	9			205

Figure 2-28



2.3.8 Couplet: P 1-3

Description

- Existing OR 62 would be converted to a one-way northbound facility.
- A corresponding one-way southbound road would be constructed on the Medco Haul Road alignment.
- Lear Way would be extended north to a point between Justice Road and Lotus Lane. It would remain a two-way facility.
- Major east/west connectors between the couplet would be provided at Delta Waters Road, on a new road in the vicinity of Owen Drive, on Coker Butte Road, on Vilas Road, and on a new road located south of Lotus Lane.
- Crater Lake Avenue would be realigned to intersect with Vilas Road further east to comply with intersection spacing standards.
- The one-way couplet roads would be arterial streets with full access and at-grade intersections.

Reasons for Not Advancing

- Did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues.
- Preliminary traffic analysis showed that in 2030, traffic congestion on OR 62 would be worse than the No Build Alternative between I-5 and Delta Waters Road as shown in Figure 2-29.
- A more detailed traffic study showed that the Couplet would fail to meet the mobility standards at Vilas Road (for both the northbound and southbound segments of the Couplet) and at Delta Waters Road (southbound) in the year 2030.
- This alternative would have impacted an estimated 453 parcels and an estimated 450 buildings as shown in Table 2-9.

Figure 2-29 2030 d/c Ratios for P 1-3

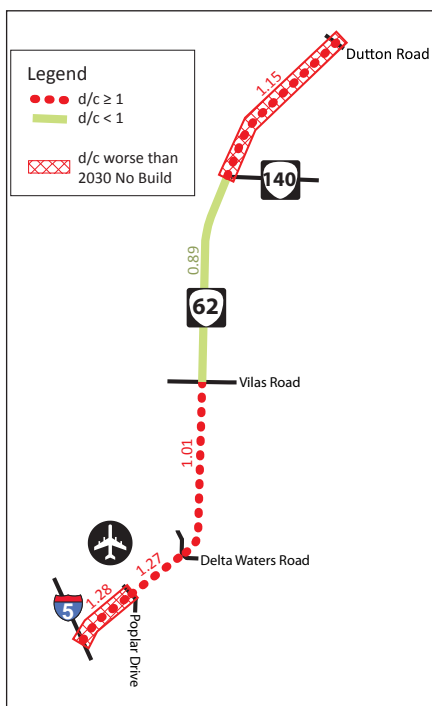
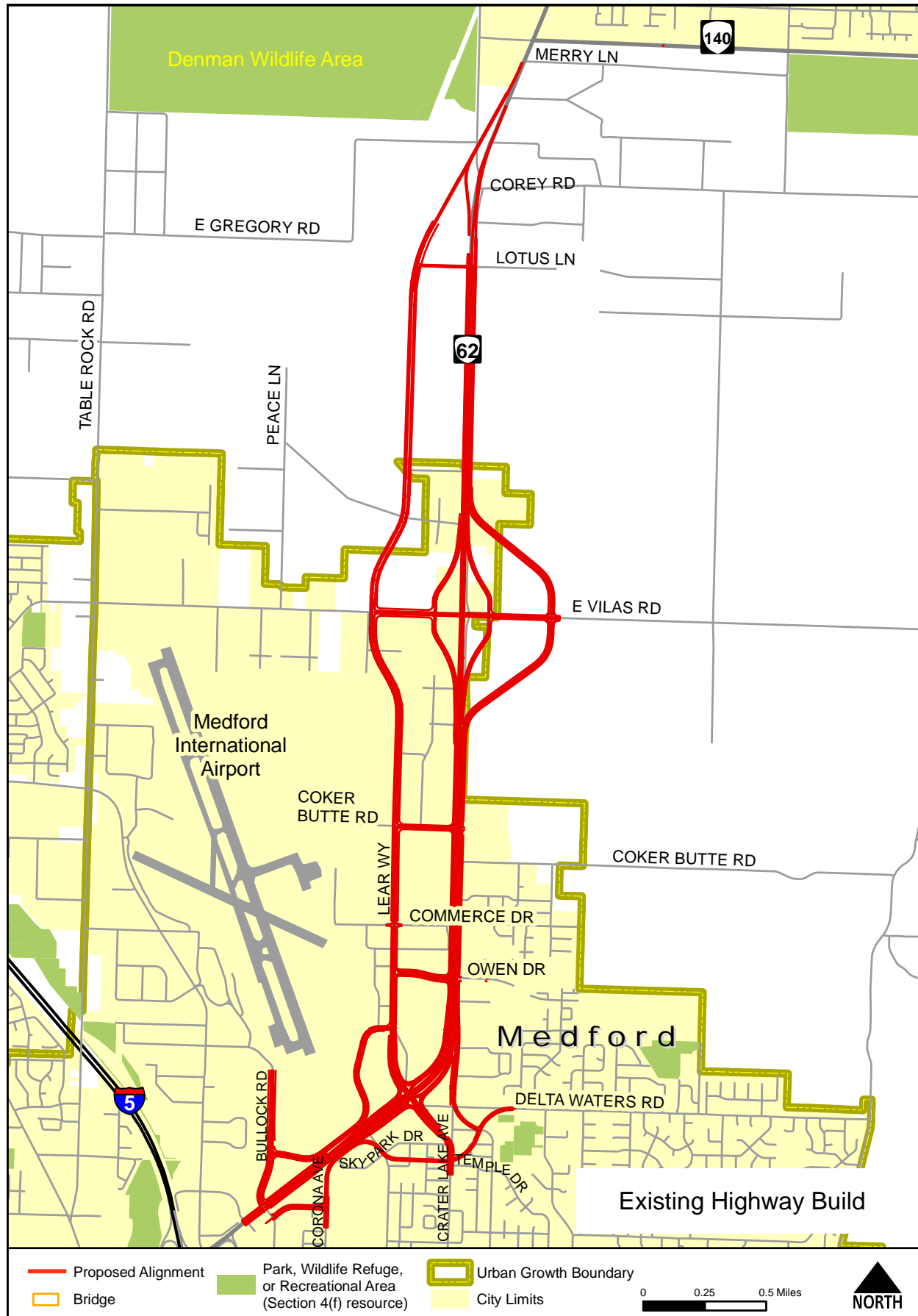


Table 2-9 Estimated Impacts from Couplet Alternative

Estimated Parcels						
	Residential	Commercial	Industrial	Farm	Forest	Total
Lots	63	150	224	5	11	453
Acres	56	131	333	2	49	571
Estimated Displacements						
	Residential	Commercial	Unknown			Total
Units	115	327	8			450

At this stage in the alternatives considered process the eight alternatives presented in the preceding pages were found to have not addressed the transportation problem. The remaining alternatives presented in the following pages were advanced and evaluated against the Purpose and Need. At the end of the Purpose and Need evaluation process two alternatives (Existing Highway and Texas Turnaround) were eliminated for not meeting the project's Purpose and Need Statement and the remaining two alternatives were advanced into the DEIS.

Figure 2-30



2.3.9 Existing Highway Build

Description

This alternative was the result of correcting the engineering for other alternatives P 1-2, P 1-4, P 3-20, and P 3-21.

- The existing OR 62 alignment would be converted to a limited-access highway and all at-grade intersections would be closed and all driveways connected to OR 62 would be re-routed to connect to local streets.
- Interchanges would be located at Lear Way and OR 62 and at Vilas Road and OR 62.
- Commerce Drive, Coker Butte Road, and Poplar Drive/Bullock Road would have grade-separated overcrossings of OR 62 (these streets would no longer connect to OR 62).
- Delta Waters Road would be realigned to connect to Lear Way.
- Lear Way would be extended north to approximately Lotus Lane, then would curve eastward and connect to OR 62 at Merry Lane. Driveways that currently connect to the west side of OR 62 would be realigned to connect to Lear Way.
- Crater Lake Avenue would be moved to the east in the vicinity of Vilas Road to comply with spacing standards. Crater Lake Avenue would continue to serve as a frontage road.

Reasons for Not Advancing

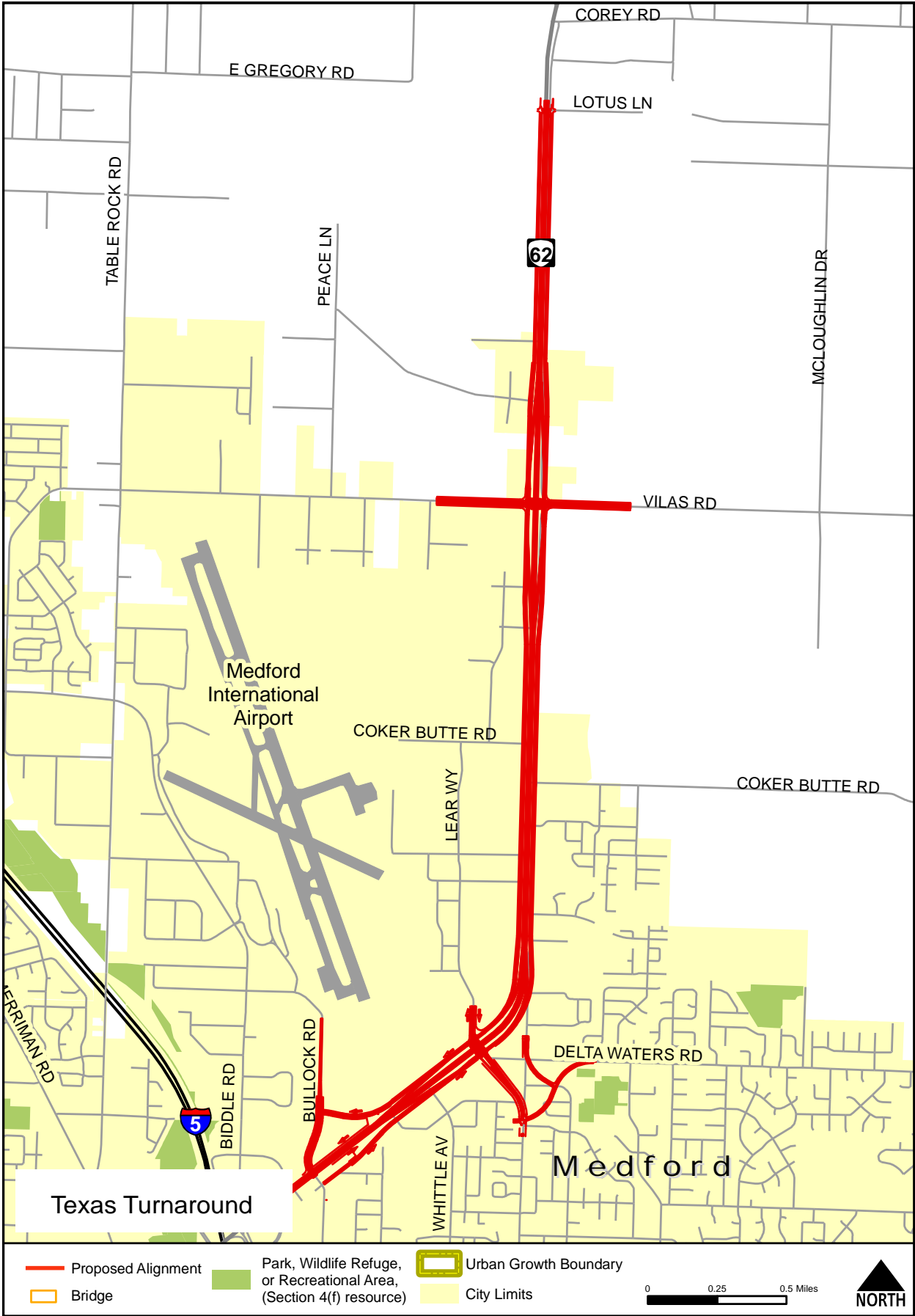
This alternative did not meet the Purpose and Need because:

- This alternative would not have provided simplified roadway connections. Local streets (i.e. Poplar Drive, Bullock Road and Delta Waters) would have still had direct connections to the expressway. Connecting local streets to an expressway is not desirable because doing so violates roadway hierarchy designations and contributes to safety problems, and is contrary to the Purpose and Need Statement.
- This alternative would not have improved crash rates in the area. Local traffic would have been diverted to a series of access roads thereby increasing the conflict points along OR 62.
- This alternative would result in substantial impacts on a number of businesses along OR 62. Would require partial acquisition of lots associated with 143 businesses and 64 "other" land uses (vacant, industrial, or publicly-owned lands). This alternative would also require full acquisition of 33 businesses and 4 vacant lots. These acquisitions would result in the displacement of 81 commercial buildings.
- This alternative would reduce access to existing and developable commercial and industrial parcels.
- This alternative would result in a high number of conflict points for bicyclists and pedestrians, resulting in higher potential for accidents.
- This alternative would not have been conducive for providing additional transit or non-motorized transportation uses. Existing bus routes would have been moved to the proposed frontage and/or backage roads; access between bus stops and businesses in the area would have been complicated by the expressway and its limited crossing locations. The OR 62 expressway and access road components would have created a significant barrier to east – west movement along OR 62.

Additional Potential Adverse Impacts

- This alternative would require an estimated 21 stream crossings, the most stream crossings of any of the alternatives considered, and ten more crossings than the next most impactful alternative under consideration. (Goal 2)
- This alternative would impact an estimated 22.8 acres of riparian habitat, which is more than any of the alternatives considered. This alternative would have impacted 8 acres more than the next most impactful alternative. (Goal 2)
- This alternative would increase emergency response time due to circuitous vehicular routing on frontage and backage roads, directly conflicting with the Goal 4 measure of reducing emergency vehicle response time. (Goal 4)
- Neighborhood connectivity would be reduced due to increased traffic congestion, circuitous routing throughout the project area, and the increased width of OR 62. (Goal 6)

Figure 2-31



2.3.10 Texas Turnaround

Description

- OR 62 would be converted to a limited-access highway. All at-grade intersections on OR 62 would be removed.
- One-way frontage roads would be constructed on both sides of OR 62.
- All driveways directly connecting to OR 62 would be re-routed to connect to the proposed frontage roads.
- Texas Turnaround interchanges, which maximize free-flow by providing protected left turns between the highway and frontage roads, would be located at Delta Waters Road and at East Vilas Road, as shown in see Figure 2-32.

Reasons for Not Advancing

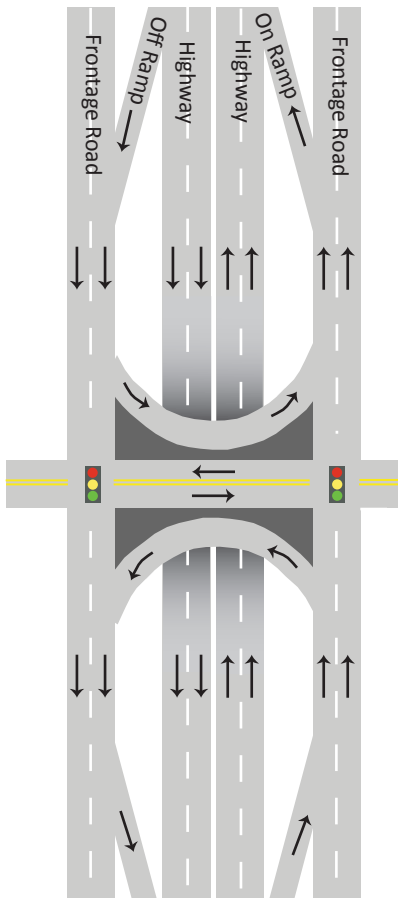
This alternative did not meet the Purpose and Need because:

- This alternative would not have provided simplified roadway connections. Local streets would have connected to the one-way frontage roads with limited opportunities to access or cross the Bypass. These types of connections would have created significant amount of out of direction travel for those using the local street network.
- This alternative would not have improved crash rates in the area. Local traffic would have been diverted onto a series of one way access roads thereby increasing the potential conflict points along OR 62.
- This alternative would require full acquisition of approximately 34 businesses, and 2 vacant lots; and caused the displacement of approximately 112 commercial buildings; and partial acquisition of approximately 146 businesses, and 51 vacant lots. (Goal 3)
- These types of interchanges, with their free-flow movements, would be extremely dangerous for bicyclists and pedestrians and would create multiple conflict points (Goal 1).
- This alternative would reduce access to existing and developable commercial and industrial parcels (Goal 3).
- This alternative would not have been beneficial to transit riders or non-motorized transportation modes. Transit riders would have to walk long distances between bus stops and businesses on the opposite side of the highway. Generally bus stops are paired (one in each direction) and located where pedestrians can cross the road in order to provide effective transportation for a round trip. The limited opportunities to cross the Bypass would make transit use in the corridor impractical. Non-motorized transportation modes heading to or from businesses on the corridor would likewise experience substantial out-of-direction travel because of the one-way frontage roads.

Additional Potential Adverse Impacts

- There were up to two miles of out-of-direction travel that would be required to reach businesses along OR 62 due to the one-way frontage roads. (Goal 3)
- Emergency response time could be increased by several minutes due to circuitous vehicular routing on one-way frontage roads. (Goal 4)
- Neighborhood connectivity would be reduced due to circuitous routing throughout the project area and the increased width of OR 62. (Goal 6)
- Substantial residential displacements would have resulted from this alternative, including possibly significant residential and commercial impacts, particularly in the south east portion of the project area between Delta Waters and Poplar Drive. (Goal 6)

Figure 2-32 Texas Turnaround Interchange Diagram (not to scale)



2.3.11 North Terminus Concepts

Early in project development the OR 62 Project was expected to terminate at Avenue G in White City. However, the preliminary traffic analysis showed that OR 62 in White City would fail to meet d/c standards if the project terminated at Avenue G. Because ODOT had improved OR 62 from Dutton Road north through Eagle Point in the 1990s, it was decided a more logical terminus would be to extend the northern terminus of the current project to Dutton Road, so that the failing d/c standards on OR 62 in White City could be addressed and eliminated.

The process for developing north terminus concepts was similar to that for developing the wide range of alternatives. ODOT requested input from the public, Jackson County officials, the PDT, and the CAC. ODOT received six north terminus concepts that were grouped into the four categories described in Section 2.3.11.1 below.

2.3.11.1 North Terminus Grouping

A number of north terminus options variants were initially developed, they fell into four categories: improve the overall street network in the vicinity of White City ("Agate Road/OR 140 Group 2"); build a bypass to the west of White City ("Bypass to the West"); build a bypass to the east of White City ("Bypass to the East"); and convert the existing highway into a limited-access facility ("Improve Existing Highway").

There were four designs for bypassing OR 62 to the west of White City: Option 3A, Agate Rd/OR 140, OR 140 South, and Agate Rd/OR 140 Group 3. These four designs varied primarily in the treatment of OR 140 and the specific location of the bypass. They were considered similar enough to be grouped and considered as a single alternative: Bypass to the West. The four original designs and the justification for grouping are described more fully in the OR 62 Alternatives Considered Technical Report, available from the ODOT staff identified on page i of this EIS.

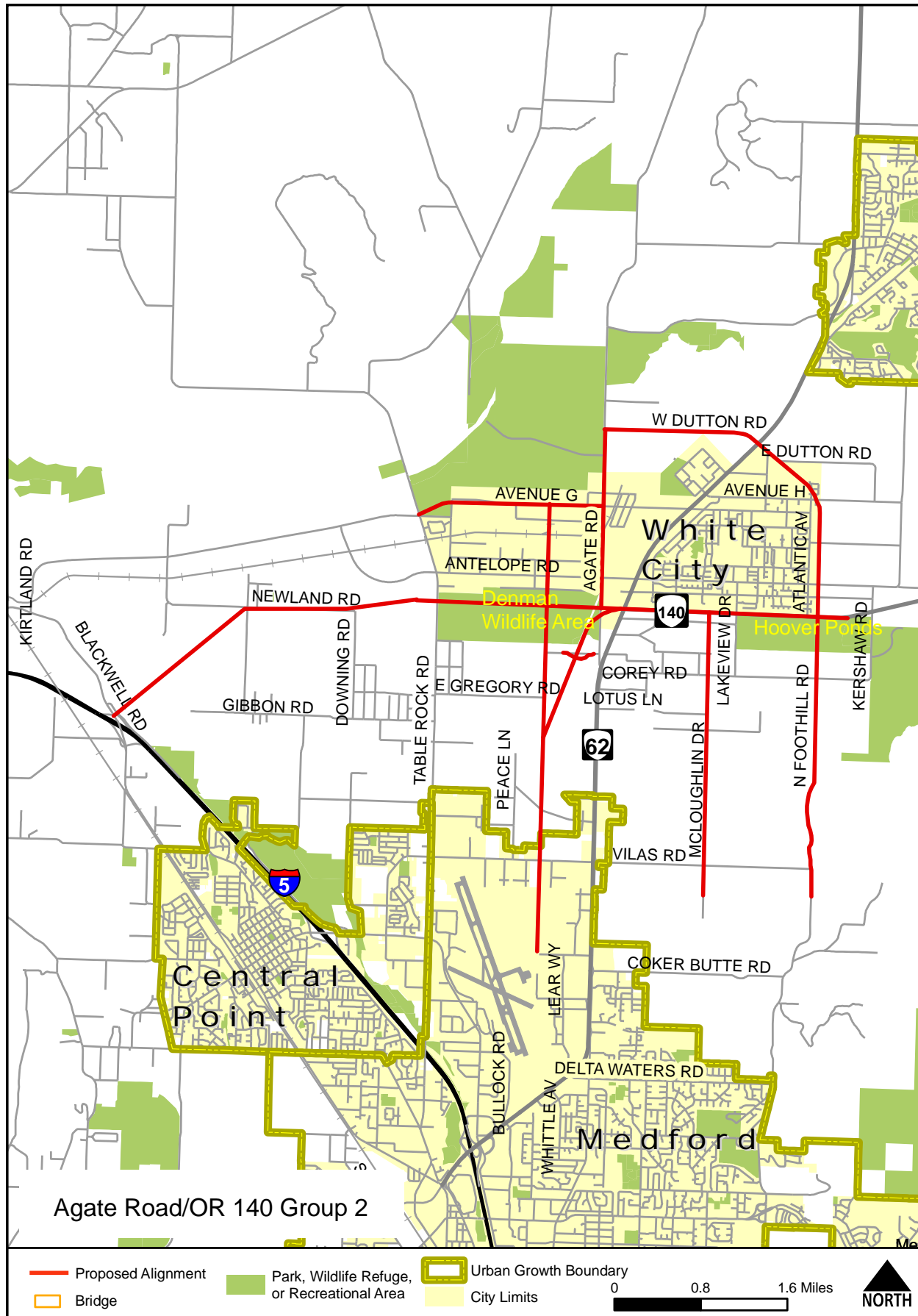
2.3.11.2 North Terminus Evaluation

The evaluation of north terminus options paralleled the evaluation of the OR 62 alternatives, with minor differences. The initial screen for the north terminus options consisted of a preliminary traffic analysis as described in Section 2.2.1. The Agate Road/OR 140 Group 2 (which would improve the overall street network); Bypass to the East; and Improve the Existing Highway were dismissed for failing to meet the project's Purpose and Need as described below. The remaining option, the Bypass to the West, met the project's Purpose and Need and is included in the SD and DI Alternatives.

The following pages describe the reasons for dismissal of each of the north terminus options in greater detail.

This page is left blank intentionally to match up figures of dismissed alternatives (on the left) with their corresponding descriptions (on the right).

Figure 2-33



2.3.12 North Terminus: Agate Road/OR 140 Group 2

Description

This north terminus option was designed to provide general regional improvements by widening existing streets and building new streets to provide new connections in the White City area. This option would not include any changes to OR 62, nor would it include a new limited-access facility (all of the new or improved streets would allow local access). The following streets and roads would be added, extended, or widened.

- West Dutton Road would be extended west to Agate Road.
- Avenue G would be extended west to Table Rock Road. Between Agate Road and Table Rock Road, Avenue G would be widened by two lanes (one in each direction).
- OR 140 would be extended west to I-5.
- A new road would be built on the Medco Haul Road alignment to connect to OR 140 at Agate Road. An additional new road would continue straight north from the Medco Haul Road alignment extending north past Avenue G.
- McLoughlin Drive would be extended north to OR 140.
- North Foothill Road would be extended north to Avenue H; it would curve northwest to connect to East Dutton Road.

Reasons for Not Advancing

- This alternative did not address the OR 62 transportation problem by diverting a significant amount of the through trips. OR 62 would still experience significant mobility issues.
- Preliminary traffic analysis showed that in 2030, traffic congestion at the intersection between OR 62 and Agate Road would be worse than the No Build Alternative as shown in Figure 2-34. Furthermore, this alternative would not improve congestion problems on OR 62 north of Antelope Road.
- This alternative would displace approximately: 72 residences, 48 commercial structures and 18 unknown structures. (Goal 3)
- This alternative would require the right-of-way acquisition of approximately: 26.16 acres from 79 residential lots, 7.74 acres from 7 commercial lots, 76.87 acres from 55 industrial lots, 41.81 acres from 21 farm lots, and 106.79 acres from 28 forest lots. (Goal 3)

Figure 2-34 2030 d/c Ratios for Agate Rd/OR 140 Group 2

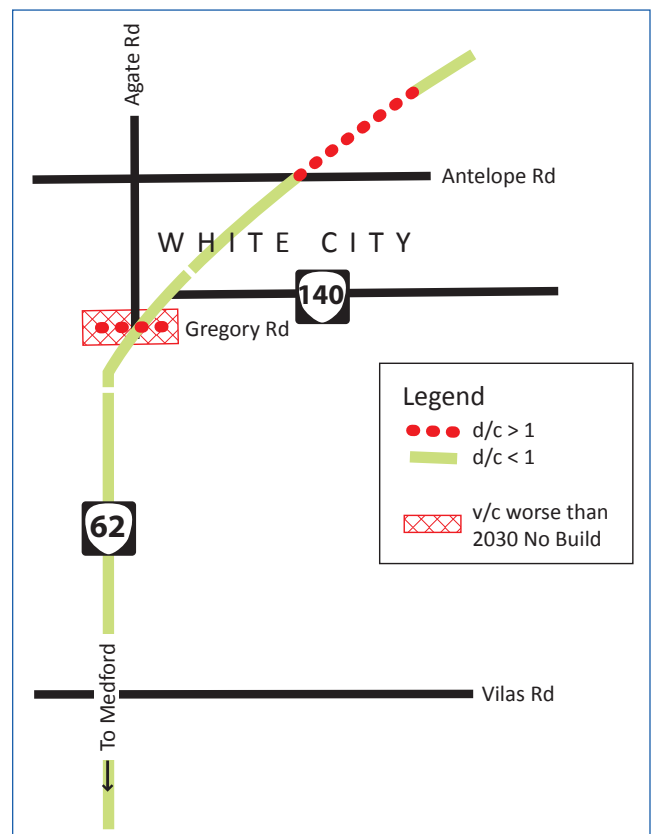


Figure 2-35



2.3.13 North Terminus: Bypass to the East

Description

Figure 2-35 shows the design for this option as it would connect to the Bypass Alternative. This option was also designed to connect to either the Existing Highway Build or the Texas Turnaround.

- A new access-controlled bypass would be built around the east side of White City. This bypass would begin at an interchange in the vicinity of the existing OR 62/Corey Road intersection and curve east to use the OR 140 alignment then curve north to reconnect to OR 62 at an interchange north of Dutton Road.
- An additional interchange between the OR 62 bypass and a realigned OR 140 would be located at the southeastern corner of White City, in the vicinity of the existing intersection of Avenue A and Atlantic Avenue.
- The segment of OR 140 that would be used by the OR 62 bypass would be converted to a high-speed, limited access facility. All existing intersections on this segment would be closed. All driveways that currently connect directly to OR 140 on this segment would be realigned to connect to local streets. On the east and west sides of this segment, new connections between OR 140 and Antelope Road would be built.
- Corey Road would no longer intersect with OR 62. Instead, a new local street would be built to connect it to Lotus Lane.

Reasons for Not Advancing

- This alternative did not address the OR 62 transportation problem by diverting a significant amount of the through trips. This alternative would require substantial amount of out of direction travel and it was determined that most traffic would remain on existing OR 62 and as a result OR 62 would still experience significant mobility issues.
- This alternative would displace approximately: 206 residences, 27 commercial structures and 7 unknown structures. (Goal 3)
- This alternative would require the right-of-way acquisition of approximately: 27.83 acres from 181 residential lots, 13.46 acres from 10 commercial lots, 4.7 acres from 6 industrial lots, 0.01 acres from 2 farm lots, and 44.42 acres from 16 forest lots. (Goal 3)
- This alternative would require the use of approximately 27 acres of EFU land. (Goal 2)
- This alternative would require the use of approximately 33 acres of OSR land. (Goal 2)

Additional Potential Adverse Impacts

- This alternative would create an undesirable barrier on the east side of White City's residential area. Members of the PDT or CAC, as well as the general public, stated that the existing OR 62 is currently an undesirable barrier. Building a new highway to the east would create a second barrier and would cause the White City residential area to be encircled by highways. This type of infrastructure development would be incompatible with the rural character of the area. (Goal 6)

Figure 2-36



2.3.14 North Terminus: Improve Existing Highway

Description

- The existing OR 62 alignment in White City would be converted to a limited-access highway. Driveways and local streets that currently connect directly to OR 62 would be closed and realigned to connect to local bi-directional access roads.
- An interchange would be located at the existing intersection of Antelope Road and OR 62.
- OR 140 would be realigned to the north to connect to the proposed interchange.

Reasons for Not Advancing

- This alternative did not address the OR 62 transportation problem by diverting a significant amount of the through trips. This alternative mixed both regional through trip and local trips destined for points just south of White City. This alternative utilized a series of bi-directional local access roads. As a result of the mixed traffic, this segment of OR 62 would still experience significant mobility issues.
- This alternative would displace approximately 43 residences and 58 commercial structures. (Goal 3)
- This alternative would require the right-of-way acquisition of approximately: 8.93 acres from 45 residential lots, 88.31 acres from 49 commercial lots, 31.81 acres from 18 industrial lots, and 0.25 acres from 7 forest lots. (Goal 3)
- This alternative would require the use of approximately 1 acre of Veterans Affairs: Southern Oregon Rehabilitation Center and Clinics (VA SORCC), a Cooperating Agency for this project. It would have also required access changes to the VA SORCC and compromised their mission to provide rehabilitation for special needs veterans. The VA SORCC would not have approved the access changes and additional right-of-way because those changes conflict with the VA SORCC's planned site improvements which include a new facility for traumatic brain injury residents. The Department of Veterans Affairs detailed these concerns as well as others in a letter sent to FHWA, dated November 19, 2007.
- This alternative would require the use of approximately 16 acres of EFU land. (Goal 2)
- This alternative would require the use of approximately 11 acres of OSR land. (Goal 2)

Additional Potential Adverse Impacts

- This alternative would have utilized a four-lane access controlled highway with parallel bi-directional access roads on either side. Local, White City traffic would have extensive out-of-direction travel to reach businesses along OR 62 due to access changes and restrictions. Local traffic would have been required to use the interchange at Antelope Road to move from the east or west side of OR 62 and could entail as much 1.5 miles of out of direction travel to move from one side of OR 62 to the other. (Goal 3). In addition, this alternative would have up to an 8 lane cross section and would require the elimination of existing at-grade crossings of OR 62, due to safety and operational concerns. The removal of at-grade crossings would not only require out-of-direction travel for vehicles it would have also impacted bicyclists and pedestrians attempting to cross the highway in the same way. (Goal 1).
- This alternative would increase the width of OR 62 through White City. OR 62 is already an undesirable barrier in White City and widening the right-of-way would have worsened this effect. (Goal 6)
- This alternative would change the level of access to all businesses on OR 62, potentially resulting in more circuitous routing to and from businesses (Goal 3).

2.4 Comparison of Alternatives

As stated in Section 2.1.2 above, the SD Alternative with Option C is ODOT's recommended alternative. Section 2.5 describes the identification of the recommended alternative as well as the process for selecting a preferred alternative.

The No Build Alternative would not include construction as a result of this project. The No Build Alternative does include funded construction of projects in the RTP. Under the No Build Alternative, travel times through the corridor would be twice as long as either of the build alternatives (31 minutes vs. 14 minutes in 2035, when northbound and southbound travel times are averaged). Under the No Build Alternative there would be 21 intersections that would not meet mobility standards in 2035 as compared to either one or two intersections that do not meet mobility standards with the build alternatives in 2035, as shown in Table 2-14. The No Build Alternative would continue to have 16 connections that are not consistent with roadway hierarchy designations, while each of the build alternatives have no inconsistent roadway hierarchy designations. The No Build Alternative would not separate local and regional travel, as both build alternatives do.

As summarized in Tables 2-10 through 2-15, the No Build Alternative would not convert land to roadway use, so there would be no direct impacts on farmland, forestland, riparian areas, wetlands, Endangered Species Act (ESA) habitat or vernal pools. However, the No Build Alternative would not upgrade existing stream crossings for fish passage, as the build alternatives would. The No-Build Alternative would not provide water quality treatment for runoff while the Build Alternatives would provide additional treatment.

The SD Alternative and DI Alternatives are similar in their impacts. The primary difference between the SD Alternative and the DI Alternative is the interchange type and location at the southern terminus. The SD Alternative includes an interchange that provides a direct connection between the proposed bypass and I-5, while the DI Alternative includes an interchange farther east on OR 62. The SD Alternative would include 25 stream crossings while the DI Alternative includes 23. Two additional crossings are needed in the SD Alternative because of bridges over Bear Creek. As a result of its proximity to Bear Creek, the SD Alternative would impact slightly more riparian habitat and medium quality wetlands than the DI Alternative, as shown in Table 2-11. The SD Alternative would have more new impervious surface than the DI Alternative. The SD Alternative is expected to have 40-51 commercial displacements, while the DI Alternative is expected to have 46-57, as shown in Table 2-12. The SD Alternative is expected to have 20-21 residential displacements, while the DI Alternative is expected to have 45-46 residential displacements.

Both alternatives include three design options between Vilas Road and Corey Road. All three design options are functionally equivalent, meaning that they would include the same number of lanes on the bypass, the same interchanges at Vilas Road and Corey Road, and the same local street improvements. The difference between the design options is the location of the bypass itself and associated environmental impacts. Starting from the west, Option C would be located primarily on the Haul Road, while Option A would be located slightly east of the Haul Road and Option B would be located along the back side of businesses on the existing OR 62.

Tables 2-10 through 2-15 provide a comparative summary of the evaluation measures for the build alternatives.

Note that Tables 2-10 through 2-15 do not summarize the contents of the FEIS. Tables 2-10 through 2-15 contain the information from the DEIS upon which the identification of the Preferred Alternative was based. Tables 2-10 through 2-15 include corrections to the tables to make them consistent with the body of the DEIS. As described under "How To Use this Document" on p. vi, these corrections are in black text. The individual resource analysis within each subsection of Chapter 3 may contain updated orange numbers, which reflect refined analysis which was completed for the FEIS.

Table 2-10 Summary of Evaluation Measures for Goal 1 (Multimodal Issues): Ensure solution provides for safe alternative modes of transportation

Objective/Evaluation Measure	Alternative and Design Option							Comments
	No Build	SD Alternative			DI Alternative			
		Design Option A	Design Option B	Design Option C	Design Option A	Design Option B	Design Option C	
Improve/increase safe bike and pedestrian facilities in the corridor								
Percentage of new transportation facilities that include bicycle and pedestrian facilities	n/a	100 (City)	100 (City)	100 (City)	100 (City)	100 (City)	100 (City)	Based on City and County road design standards. Bicycles and pedestrians will be allowed on shoulder of bypass.
		0 (County ¹)	0 (County)	0 (County)	0 (County)	0 (County)	0 (County)	
Number of potential bicycle/pedestrian/motorized vehicle conflict points		2	2	2	3	3	3	Conflict points at all directional interchanges
Improve bike and pedestrian connectivity in the corridor								
Number of new bike or pedestrian connections	0	0	0	0	1	1	1	New bike connection for the DI alternative at the Skypark extension.
Provide opportunities for increased transit utilization								
Are there opportunities for transit improvements?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	June 2012 transit study developed a range of potential improvements outlined in Appendix M.

¹ Jackson County does not designate shoulders as bicycle lanes, therefore none of the facilities within the jurisdiction of Jackson County will have designated bike lanes. State law prohibits pedestrians from using bicycle lanes for walking

Table 2-11 Summary of Evaluation Measures for Goal 2 (Environmental Issues): Avoid, minimize, and mitigate impacts on the natural environment

Objective/Evaluation Measure		Alternative and Design Option						Comments	
		No Build	SD Alternative			DI Alternative			
			Design Option A	Design Option B	Design Option C	Design Option A	Design Option B		Design Option C
Minimize air quality impacts									
Violations of the Air Quality Standards (Particulates and Carbon Monoxide)		N/A	0	0	0	0	0	0	
Avoid or minimize impacts on native fish and wildlife habitat and movement corridors									
Number of stream crossings with documented ESA-listed species present (permanent/temporary)		0/0	2/2	2/2	2/2	0/0	0/0	0/0	
Number of stream crossings with approved fish passage designs.		0	23	23	24	20	20	21	
Riparian habitat impacted	Linear feet	0	3,328	3,292	3,327	2,882	2,846	2,881	
	Total area (acres)	0	3.6	3.7	3.5	3.0	3.1	2.9	
Number of wildlife highway crossing opportunities (i.e.: dry culverts & highway overcrossings for wildlife passage)		0	0	0	0	0	0	0	New stream crossings may provide crossing opportunities for small animals. However, no crossings are currently designed specifically for this purpose.

Table 2-11 Summary of Evaluation Measures for Goal 2 (Environmental Issues): Avoid, minimize, and mitigate impacts on the natural environment

Objective/Evaluation Measure		Alternative and Design Option							Comments
		No Build	SD Alternative			DI Alternative			
			Design Option A	Design Option B	Design Option C	Design Option A	Design Option B	Design Option C	
Avoid or minimize impacts on ESA-listed species and their habitats									
Number of ESA-listed species impacted	Plant species	0	2	2	2	2	2	2	
	Fish species	0	1	1	1	1	1	1	
	Invertebrate species	0	1	1	1	1	1	1	
Acres of habitat with impacts classified by USFWS as “vernal pool critical habitat”	Direct	0	7.0	7.0	7.0	7.0	7.0	7.0	
	Indirect	0	19.8	19.8	19.8	19.8	19.8	19.8	
Acres of “Woolly Meadow Foam” (ESA-listed plant species) habitat impacts	Direct	0	13.7	13.7	13.7	13.7	13.7	13.7	
	Indirect	0	28.8	28.8	28.8	28.8	28.8	28.8	
Acres of “Cook’s Lomatium” (ESA-listed plant species) habitat impacts	Direct	0	5.1	5.1	5.1	5.1	5.1	5.1	
	Indirect	0	11.3	11.3	11.3	11.3	11.3	11.3	
Avoid or minimize impacts on wetlands and vernal pools									
Acres of high quality wetlands impacted		0	2.9	2.6	2.7	2.9	2.6	2.7	
Acres of medium quality wetlands impacted		0	3.6	3.2	4.1	3.1	2.7	3.6	
Acres of low quality wetlands impacted		0	15.6	14.5	16.5	15.6	14.5	16.5	

Table 2-11 Summary of Evaluation Measures for Goal 2 (Environmental Issues): Avoid, minimize, and mitigate impacts on the natural environment

Objective/Evaluation Measure	Alternative and Design Option							Comments
	No Build	SD Alternative			DI Alternative			
		Design Option A	Design Option B	Design Option C	Design Option A	Design Option B	Design Option C	
Avoid or minimize impacts on wetlands and vernal pools								
Acres of high quality field-verified vernal pool habitat directly impacted	0	0	0	0	0	0	0	
Acres of medium quality field-verified vernal pool habitat directly impacted	0	3.9	3.9	3.9	3.9	3.9	3.9	
Acres of low quality field-verified vernal pool habitat directly impacted	0	1.4	1.4	1.4	1.4	1.4	1.7	
Avoid or minimize impacts on aquatic resources								
Estimated volume (yd ³) of fill below Ordinary High Water Line (OHWL)	0	No net rise ¹	No net rise	No net rise	No net rise	No net rise	No net rise	
Minimize impacts on water quality								
Preliminary estimate of area (acres) of new impervious surface	0	107.8	106.5	108.6	106.1	104.7	106.9	
Preliminary estimate of area (acres) of contributing impervious surface	31.5	222.8	221.4	223.6	221.2	219.8	222.0	
Impacts on 303(d) listed waterways	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Bear Creek (TMDL) and Lone Pine Creek drainage basins currently impacted by untreated runoff; Build Alternatives would increase impervious surface.
Minimize noise impacts								
Number of noise impacts	0	13	13	19	14	14	20	None of the impacts meet the ODOT reasonable and feasible criteria at this time, so abatement is not currently being planned for any of the impacts.

¹ If "no net rise" cannot be accomplished, impacts on flooding are expected to be small enough such that they would not be noticeable.

Table 2-11 Summary of Evaluation Measures for Goal 2 (Environmental Issues): Avoid, minimize, and mitigate impacts on the natural environment

Objective/Evaluation Measure	Alternative and Design Option							Comments
	No Build	SD Alternative			DI Alternative			
		Design Option A	Design Option B	Design Option C	Design Option A	Design Option B	Design Option C	
Avoid or minimize impacts on the visual/aesthetic landscape								
Change in visual quality								
1) Bear Creek Greenway	Low	Moderate	Moderate	Moderate	Low	Low	Low	
2) Justice Road area	Low	Moderate - High	Moderate	High	Moderate - High	Moderate	High	
3) VA SORCC	Low	Moderate - High	Moderate - High	Moderate - High	Moderate - High	Moderate - High	Moderate – High	
Avoid or minimize impacts on cultural resources								
Number of adverse impacts on archaeological resources	0	0	0	0	0	0	0	
Number of historic “above-ground” resources adjacent to alignment	2	2	2	2	2	2	2	
Number of adverse “above-ground” impacts on historic resources	0	0	0	0	0	0	0	
Minimize impacts on farmland (EFU) and forestland								
Acres of farmland (EFU) impacts	0	52	36	33	52	36	33	
Acres of forestland impact	0	38.0	42.1	42.2	38.0	42.1	42.2	Represents the land zoned Open Space Reserve converted to roadway use.

Table 2-12 Summary of Evaluation Measures for Goal 3 (Economic Issues): Maintain economic vitality in the corridor

Objective/Evaluation Measure	Alternative and Design Option							Comments
	No Build	SD Alternative			DI Alternative			
		Design Option A	Design Option B	Design Option C	Design Option A	Design Option B	Design Option C	
Provide efficient movement of freight through the corridor as well as within the corridor								
Number of changed access points to industrial/commercial areas	0	4	4	4	5	5	5	
Travel time through the corridor for the 2035 design year (minutes)	32	13	13	13	16	16	16	Forecasted afternoon peak travel time estimated from I-5 to Dutton Road.
Minimize impacts on businesses and residents								
Number of commercial displacements	0	40	51	40	46	57	46	
Number of residential displacements	0	19	20	21	45	45	46	Residential displacements include both tenants and homeowners.
Number of partial residential or commercial acquisitions not resulting in a displacement	0	172	165	163	178	172	170	
Provide accessibility for businesses								
Number of existing approach roads that would be changed (closed, consolidated, or moved)	0	50	50	47	66	66	63	Reasonable access would be provided to each property, or else damages, if compensable, would be determined in the appraisal process.

Table 2-13 Summary of Evaluation Measures for Goal 4 (Safety Issues): Ensure the solution is safe for all modes of transportation

Objective/ Evaluation Measure	Alternative and Design Option							Comments
	No Build	SD Alternative			DI Alternative			
		Design Option A	Design Option B	Design Option C	Design Option A	Design Option B	Design Option C	
Follow applicable design standards								
Number of design exceptions required	0	6	6	6	3	3	3	Of the SD design exceptions, three are minor exceptions at the I-5 interchange for ramp length, weave distance, and lack of a full range of movements (southbound I-5 to northbound on the bypass) and three are for failure to meet the Highway Design Manual mobility standard. All three of the DI Alternative design exceptions are for failure to meet the Highway Design Manual mobility standard. ⁷
Apply access management standards within the corridor								
Number of access spacing deviations required	18	TBD	TBD	TBD	TBD	TBD	TBD	To be determined during final design
Emergency response time (minutes):	Increased due to congestion	No change	No change	No change	No change	No change	No change	Under the No Build response times would increase due to increased congestion. Under the build alternatives, some routes may experience faster or slower response times, but overall corridor response times would be similar to current response times.

⁷ The number of design exceptions does not include design exceptions for not providing the full range of movements at the interchanges at Agate and Dutton Roads

Table 2-14 Summary of Evaluation Measures for Goal 5 (Transportation Issues): Provide a solution that addresses capacity and connectivity needs

Objective/Evaluation Measure	Alternative and Design Option							Comments
	No Build	SD Alternative			DI Alternative			
		Design Option A	Design Option B	Design Option C	Design Option A	Design Option B	Design Option C	
Meet design year capacity needs (v/c, LOS)								
Number of intersections in the 2035 design year that do not meet mobility standards (v/c or LOS)	10	2	2	2	3	3	3	Includes instances where an OR 62 signalized intersection fails to meet the OHP mobility performance target or the Jackson County standard.
Provide facilities that meet user expectations (signage, visibility, etc.)								
Number of logical major modal connections (e.g., OR 140 to bypass)	4	7	7	7	6	6	6	
Provide efficient connectivity within the corridor								
Number of connections that are not consistent with roadway hierarchy designations	16	0	0	0	0	0	0	OR 62 is designated a Statewide Expressway; existing intersections with local streets are not consistent with this designation. The designation would be moved to the bypass under the build alternatives.
Find a balance between different users (through vs. local) needs								
Provides separation between local and regional travel (Y/N)	N	Y	Y	Y	Y	Y	Y	

Table 2-15 Summary of Evaluation Measures for Goal 6 (Social Issues): Enhance community livability and quality of life

Objective/ Evaluation Measure	Alternative and Design Option							Comments
	No Build	SD Alternative			DI Alternative			
		Design Option A	Design Option B	Design Option C	Design Option A	Design Option B	Design Option C	
Minimize impacts on neighborhoods (i.e.: Justice Road and Peace Lane area) within and adjacent to the project area								
Potential Environmental Justice (low income/minority) impacts are significant (yes/no)	No	No	No	No	No	No	No	
Neighborhood connectivity impacts	Yes	Yes	Yes	Yes	Yes	Yes	Yes	New roadway connecting Justice and Gregory Rd would bisect rural community. Detours up to one mile would occur for residences served by Gregory Rd and Gramercy Dr.
Number of through streets that would end in a cul-de-sac	0	10	10	10	11	11	11	These streets would end in a cul-de-sac: Gregory Road, Justice Road, Dutton Road,, Avenue A, Leigh Way, Commerce Drive, Coker Butte Road, Industry Drive, Helo Drive, Grammercy Drive, and Whittle Avenue (DI only)
Direct/indirect impacts on neighborhoods (i.e.: noise impacts and community cohesion)	Yes – increase in travel times.	Yes	Yes	Yes	Yes	Yes	Yes	The bypass would introduce an urban feature in rural areas.

2.5 Identification of a Recommended Alternative and of the Preferred Alternative (SD Alternative with Design Option C)

2.5.1 Identification of the Recommended Alternative (SD Alternative with Design Option C)

Public (CAC) and project team (PDT) meetings were held on May 25 and 26, 2011 at the Jackson County Auditorium in White City, Oregon. The purpose of these meetings was to provide an overview of the project's history; to present the findings of the technical analysis summarized in Tables 2-10 to 2-15; and to solicit public input on these findings. At the May 25, 2011 meeting the CAC made a recommendation to forward the SD Alternative with Option C as the Recommended Alternative. This recommendation was based on the public input received and the findings of the technical analysis. The CAC recommendation was forwarded to the PDT at its May 26, 2011 meeting where they concurred with the recommendation. ODOT is also recommending the SD Alternative with Option C in this DEIS. After the close of the DEIS public comment period, all substantive comments will be considered and a preferred alternative will be identified. The Final EIS will include the selection of the preferred alternative, summary of environmental impacts and mitigation commitments. FHWA will document and explain the decision regarding the selected alternative, project impacts, and mitigation measures in a Record of Decision (ROD). Issuance of the ROD completes the NEPA decision-making process.

2.5.2 Identification of the Preferred Alternative (SD Alternative with Design Option C)

Based on the DEIS and comments from the public and local, state, and Federal agencies, ODOT and FHWA have identified the SD Alternative with Design Option C as the Preferred Alternative. The Preferred Alternative performs better and achieves the Project Purpose and Need better than the DI Alternative and the No Build Alternative. In addition to performing better, the Preferred Alternative has lower impacts to some natural and built environment resources. The differences in impacts between the alternatives and design options are described in greater detail in Chapters 3 and 4. Although there are some cases where the Preferred Alternative has greater impacts to specific natural or built environment resources, the difference in those impact levels is not great enough to substantially outweigh the benefits of the Preferred Alternative.

This section first explains the rationale for identifying the SD Alternative versus the No Build and DI Alternatives, then explains the rationale for identifying Design Option C versus Design Option A or Design Option B.

The reasons described below for the identification of the SD Alternative with Design Option C as the Preferred Alternative rely on the numerical comparisons in Tables 2-10 to 2-15, which are from the DEIS. They do not rely on the numerical comparisons in Chapter 3 of this FEIS, because the SD Alternative with Design Option C was identified as the Preferred Alternative based on the contents of the DEIS. In addition, the numerical comparisons in Chapter 3 of this FEIS reflect changes to the impacts of the SD Alternative and Design Option C due to refinements to their designs subsequent to the publication of the DEIS. Such refinements have not been made to the DI Alternative or Design Options A or B since they were not selected as the Preferred Alternative.

Rationale for Identification of the SD Alternative as the Preferred Alternative

FHWA and ODOT have identified the SD Alternative as the Preferred Alternative for the following reasons.

1. The No Build Alternative does not meet the Project Purpose and Need, and, for the reasons described below, the SD Alternative achieves three of the four Project Purpose and Need criteria from Section 1.2 better than the DI Alternative: deficient roadway system hierarchy/linkage, intersection operations and corridor congestion, and safety. The SD Alternative and DI Alternative perform equivalently for the fourth need criterion, non-motorized transportation modes.
 - **Deficient Roadway System Hierarchy/Linkage.** The SD Alternative better meets the need for a roadway system hierarchy because it separates local and through traffic for the entire length of the bypass, while the DI Alternative mixes local and through traffic in the vicinity of the southern terminus of the bypass.
 - **Intersection Operations and Corridor Congestion.** The SD Alternative will improve intersection operations and reduce corridor congestion more than the DI Alternative or the No Build Alternative.
 - **Safety.** Both build alternatives would improve traffic safety compared to the No Build Alternative by diverting traffic from existing OR 62 onto the bypass and by reducing congestion at intersections, providing larger gaps for traffic turning onto or from local streets and driveways, and reducing the number of intersections and driveways blocked by traffic queues. Section 3.1.3.2 of the DEIS said that the DI Alternative may increase safety more than the SD Alternative, due to the fact that the DI Alternative would divert more traffic onto the bypass than the SD Alternative, and fewer instances of queuing blockages at existing OR 62 intersections over the entire length of the corridor are forecasted under the DI Alternative (18 vs. 25 in 2035). However, further analysis indicates that traffic volumes on existing OR 62 at the I-5 Interchange and immediately north of it are forecast to be much higher under the DI Alternative than under the SD Alternative (66,100 vs. 60,700 between the southbound and northbound I-5 ramps; and 70,500 vs. 51,500 between the northbound I-5 ramps and Poplar Drive in 2035). This is where crash rates are now the highest. In addition, one queuing blockage is forecast at the interchange in 2015 under the DI Alternative and two are forecast in 2035; no queuing blockages in the interchange area are forecast under the SD Alternative in either year. Fewer queuing blockage and lower traffic volumes often correlate to lower crash rates.
2. The SD Alternative will avoid the severe reductions in connections to and from commercial land uses near the southern terminus that would occur under the DI Alternative.
3. In some cases, the SD Alternative would have lesser impacts to a number of natural and built environment resources than the DI Alternative. These include fewer residential and commercial displacements, fewer changes to existing driveways, and shorter northbound travel times. Although there are some cases where the SD Alternative would have greater impacts than the DI Alternative, the difference in impact levels is relatively minor and ODOT will mitigate for many of those impacts.

Rationale for Identification of Design Option C as Part of the Preferred Alternative

FHWA and ODOT have identified Design Option C as part of the Preferred Alternative based on a comparison of impacts. Design Options A, B, and C would be the same in achieving the elements of the Project Purpose and Need listed above. The three Design Options have different impacts to different resources and no single option minimizes all impacts to all resources. In identifying Design Option C as part of the Preferred Alternative, FHWA and ODOT weighed the benefits of Design Option C's lesser impacts to certain resources against Design Option C's greater impacts to other resources and concluded that Design Option C is the most appealing for the following reasons.

- The number of acres of EFU land impacted by Design Option C directly and indirectly will be lower than under either Design Option A or B and these impacts cannot be mitigated
- Design Option C will impact less riparian habitat than Design Options A or B
- Design Option C will cause fewer commercial displacements than Design Option B.

The impacts of Design Options A, B, and C not mentioned here are similar.

2.5.3 Identification of the SD Alternative with Design Option C as the Environmentally Preferred Alternative

The reasons listed below for the identification of the SD Alternative and Design Option C as the environmentally preferred alternative rely on the numerical comparisons in Tables 2-10 to 2-15, which are from the DEIS. They do not rely on the updated numerical comparisons in Chapter 3 of this FEIS, because the SD Alternative with Design Option C was identified as the environmentally preferred alternative based on the contents of the DEIS. The numerical comparisons in Chapter 3 of this FEIS reflect changes to the estimation of impacts of the SD Alternative and Design Option C from refinements to the design of the SD Alternative and Design Option C. Such refinements have not been made to the DI Alternative or Design Options A or B, since they were not selected as the preferred alternative.

Rationale for Identification of the SD Alternative as the Environmentally Preferred Alternative

The SD Alternative is the environmentally preferred alternative because the following benefits outweigh the greater impacts of the SD Alternative on the Bear Creek Greenway and the SD Alternative's two crossings of Bear Creek:

- its lower commercial displacements compared to the DI Alternative (40 vs. 46),
- its lower residential displacements compared to the DI Alternative (21 vs. 46), and
- its avoidance of the business impacts due to the reductions in connections to and from commercial land uses near the southern terminus that would occur under the DI Alternative.

The use of Bear Creek Greenway land for the SD Alternative will be small in scale and committed mitigation provided will likely improve the existing conditions of the Bear Creek Greenway trail. While the SD Alternative will have visual impacts on the Bear Creek Greenway, the visual quality of the affected area is already heavily impacted by its close proximity to I-5. Impacts from the crossings of Bear Creek will be minimized and mitigated by the requirements of the Biological Opinion issued by the National Marine Fisheries Service (contained in Appendix G).

The greater economic and social disruptions caused by the higher commercial and residential displacements and reductions in connections to commercial uses near the southern terminus under the DI Alternative are considered to be substantially more severe than the impacts of the SD Alternative on the Bear Creek Greenway and Bear Creek. Impacts of the SD and DI Alternatives not described in this paragraph are similar.

Rationale for Identification of Design Option C as Part of the Environmentally Preferred Alternative

The rationale for the identification of Design Option C as part of the environmentally preferred alternative is the same as the rationale for the identification of Design Option C as part of the Preferred Alternative, as stated above.

2.6 Permits and Approvals Needed

Table 2-16 lists permits and approvals that are required for this project, and whether they would be required for the build alternatives or the JTA phase. In the “Build Alternatives” and “JTA Phase” columns, a “Y” signifies that the permit or approval is outstanding. An “N” signifies that the permit or approval would not be needed.

Table 2-16: Permits and Approvals Needed

Agency	Permit or Approval	Build Alternatives	JTA Phase
Federal Aviation Administration	Form 7470: Airspace Analysis of NAVAIDS	Y	Y
Federal Highway Administration	Section 4(f) <i>de minimis</i> finding for Denman Wildlife Refuge	Y	N
Federal Highway Administration	Section 4(f) <i>de minimis</i> finding for Bear Creek Greenway, only if the SD alternative is selected	Y	N
Federal Highway Administration	Section 4(f) <i>de minimis</i> finding for proposed Midway Park, only if the SD alternative is selected	Y	N
National Marine Fisheries Service	Section 7 Consultation for threatened and endangered species	Y	Y
National Marine Fisheries Service	Magnuson-Stevens Fishery Conservation and Management Act	Y	Y
National Park Service	Approval of conversion of Bear Creek Greenway land under the Preferred Alternative, pursuant to Section 6(f) of the Land Water and Conservation Act	Y	N
United States Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States	Y	Y
United States Fish and Wildlife Service	Section 7 Consultation for threatened and endangered species, review and comment on 404 permit	Y	Y
Oregon Department of Environmental Quality	Section 402 National Pollutant Discharge Elimination System (NPDES) Water Discharge Permit	Y	Y
Oregon Department of Environmental Quality	Section 404 Permit review	Y	Y
Oregon Department of Environmental Quality	Section 401 Water Quality Certification	Y	Y
Oregon Department of Environmental Quality	Septic System Permit	Y	Y
Oregon Department of Environmental Quality	Asbestos-containing building materials and Section 401 Hazardous Material issues	Y	Y
Oregon Department of Environmental Quality	Site preparation permits for grading, erosion, blasting, and air and noise emissions	Y	Y
Oregon Department of Fish and Wildlife	Oregon Fish Passage Rule	Y	Y
Oregon Department of State Lands	Removal-Fill Permit or General Authorization	Y	Y
Oregon Department of State Lands	Pre-Construction Assessment Permit for in-water work (with U.S. Army Corps of Engineers)	Y	Y
Oregon Department of State Lands	Wetland Delineation Concurrence	Y	Y
Oregon Department of State Lands	Short-Term Access Agreement	Y	N
Oregon Department of Transportation	Addition of the OR 62 bypass to the Oregon Highway Plan	Y	Y
Oregon Department of Transportation	Exceptions to mobility performance targets that would not be met	Y	Y
Oregon Department of Transportation	Permit for relocation of utility lines in a state road right-of-way	Y	Y
State Historic Preservation Office	Section 106 Historic Resource Protection (project-wide finding)	Y	Y
Oregon Parks and Recreation Department	Approval of conversion of Bear Creek Greenway land under the Preferred Alternative, pursuant to Section 6(f) of the Land Water and Conservation Act	Y	N
Jackson County	Floodplain Development Permit	Y	Y
Jackson County	Section 6(f) conversion for impacts on the Bear Creek Greenway	Y	Y

Agency	Permit or Approval	Build Alternatives	JTA Phase
Jackson County	Bridge and stream crossings: compliance with Section 7.1.2, Floodplain Overlay of the Jackson County Land Development Ordinance	Y	Y
Jackson County	Transportation System Plan amendments and Statewide Planning Goal exceptions	Y	Y
Jackson County	Building permit	Y	Y
Jackson County	Consider protecting the regional and statewide mobility function of the new bypass through their comprehensive plan, transportation system plan, and implementing ordinances	Y	N
Jackson County	Consider developing ordinances that provide for local street connectivity in the vicinity of the bypass facilities, including provisions for parallel streets and limits on interrupted street networks which cause reliance on the bypass facility for local trips.	Y	N
City of Medford	Building permit	Y	Y
City of Medford	Section 6(f) Land Conversion, only if the SD alternative is selected	Y	N
City of Medford	Consider protecting the regional and statewide mobility function of the new bypass through their comprehensive plan, transportation system plan, and implementing ordinances	Y	N
City of Medford	Consider developing ordinances that provide for local street connectivity in the vicinity of the bypass facilities, including provisions for parallel streets and limits on interrupted street networks which cause reliance on the bypass facility for local trips.	Y	N
Utilities	Easements	Y	Y